IN THE UNITED STATES DISTRICT COURT

FOR THE DISTRICT OF DELAWARE

IGT, Plaintiff, v. BALLY GAMING INTERNATIONAL, INC., BALLY TECHNOLOGIES, INC., and BALLY GAMING, INC., Defendants.	)	C.A. No. 06-282 (KAJ)

DECLARATION OF AMY H. CANDIDO IN SUPPORT OF BALLY'S MOTION TO TRANSFER

I, Amy H. Candido, hereby declare as follows:

1. I am an attorney in the law firm of Quinn Emanuel Urquhart Oliver & Hedges, LLP, counsel for Bally Technologies, Inc., Bally Gaming International Inc., and Bally Gaming Inc. (collectively "Bally"). I have personal knowledge of the facts set forth in this declaration and, if called upon as a witness, I could and would testify to such facts under oath.

2. On December 7, 2004, IGT sued Bally Technologies, Inc. (formerly known as Alliance Gaming Corp.), Bally Gaming International, Inc., and Bally Gaming, Inc. for alleged patent infringement in the United States District Court for the District of Nevada, Case No. 2:04-1676-RCJ-RJJ (the "Nevada Action"). The Nevada Action is pending before Judge Robert C. Jones.

3. In the Nevada Action, IGT alleges that Bally infringes six patents owned by IGT -- four patents relating to slot machines and two patents relating to player

tracking. The two player tracking patents are U.S. Patent Nos. 6,712,698 (the "'698 patent") and 6,722,985 (the "'985 patent"). The '698 patent discloses a player tracking unit with a touch screen display used to present various player tracking services and game services to the player. Those player tracking services and game services include bonusing, promotions, prize redemption and comps. A true and correct copy of the '698 patent is attached hereto as Exhibit 1. The '985 patent discloses a player tracking system that may include a bonus button and may be used as part of a bonusing system. A true and correct copy of the '985 patent is attached hereto as Exhibit 2.

4. The parties in the Nevada Action have exchanged extensive written discovery and over 400,000 pages of documents have been produced. IGT has conducted two depositions of Bally employees pursuant to Fed. R. Civ. P. 30(b)(6). The parties have stipulated to a Markman hearing on September 26-28, 2006.

5. In the Nevada Action, Bally has asserted that U.S. Patent No. 6,319,125 B1 – one of the patents-in-suit in this action – invalidates the '698 and '985 patents.

6. In the Nevada Action, Bally has also asserted that U.S. Patent Nos. 5,655,961 and 5,702,304 invalidate the '698 and '985 patents. U.S. Patent Nos. 5,655,961 and 5,702,304 are in the same patent family, share the same inventor (John Acres), and share the same or substantially similar specifications as the following five patents-in-suit in this action: U.S. Patent Nos. RE38,812; 6,319,125; 6,565,434; RE37,885; and 6,832,958.

7. Rick Rowe is a named inventor of both U.S. Patent No. 6,620,046 B2, one of the patents-in-suit in this case, and the '985 patent at issue in the Nevada Action.

8. Attached hereto as Exhibit 3 is a true and correct copy of excerpts from IGT's Form 10-K for the fiscal year ended September 30, 2005.

9. Attached hereto as Exhibit 4 is a true and correct copy of an IGT press release dated October 27, 2003.

10. Attached hereto as Exhibit 5 is a true and correct copy of excerpts from Acres Gaming Inc.'s Form 10-K for the fiscal year ended June 30, 2003.

11. Attached hereto as Exhibit 6 is a true and correct copy of excerpts from Acres Gaming Inc.'s Form 10-K for the fiscal year ended June 30, 1996.

12. Attached hereto as Exhibit 7 is a true and correct copy of Plaintiff IGT's First Set Of Requests For Production Of Documents And Things To Defendants (Nos. 1-40), served on May 26, 2006.

I declare under penalty of perjury that the foregoing is true and correct.

Dated: June 1, 2006

Amy H. Candido

Amy H. Candido

CERTIFICATE OF SERVICE

I, Karen Jacobs Louden, hereby certify that on June 1, 2006 I electronically filed the Declaration of Amy H. Candido in Support of Bally's Motion to Transfer with the Clerk of the Court using CM/ECF, which will send notification of such filing(s) to the following:

William J. Wade
Richards, Layton & Finger

and that I also caused copies to be served upon the following in the manner indicated:

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BY FEDERAL EXPRESS

David P. Enzminger
O'Melveny & Myers LLP
610 Newport Center Drive
Newport Beach, CA 92660

/s/ Karen Jacobs Louden
Karen Jacobs Louden (#2881)
klouden@mnat.com

EXHIBIT 1

US006712698B2

(12) **United States Patent**
Paulsen et al.

(10) **Patent NO.: US 6,712,698 B2**
(45) **Date of Patent: Mar. 30,2004**

(54) **GAME SERVICE INTERFACES FOR PLAYER TRACKING TOUCH SCREEN DISPLAY**

(75) Inventors: **Craig A. Paulsen,** Reno, NV (US); **Jamal Benbrahim,** Reno, NV (US); **Greg A. Benoy,** Reno, NV (US)

(73) Assignee: **IGT,** Reno, NV (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by **1** day.

(21) Appl. No.: **09/961,051**

(22) Filed: **Sep.** 20, 2001

(65) **Prior Publication Data**

US 200310054868 A1 Mar. 20, 2003

(51) **Int. Cl.**[7] **A63F** 9/24

(52) **U.S. Cl.** **463/30**; 463116; 463120; 463142

(58) **Field of Search** 463116–20, 25–28, 463130, 40–42

(56) **References Cited**

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(List continued on next page.)

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OTHER PUBLICATIONS

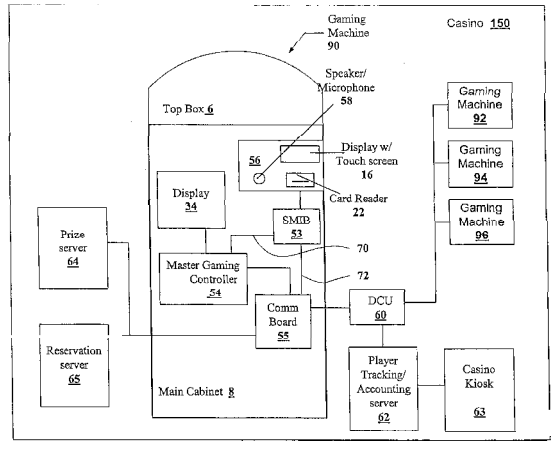
Mark Fischetti, At Your Fingertips—Touch Screens, Apr. 2001, Scientific American, pp. 102–103.

Primary *Examiner*—Michael O'Neill
(74) Attorney, Agent, or *Firm*—Beyer, Weaver & Thomas

(57) **ABSTRACT**

A disclosed a player tracking unit provides a touch screen display with a touch screen controller integrated into the touch screen sensor assembly. Game service interfaces may be presented on the touch screen display that allow a user to obtain one or more game services. The game service interfaces may include buttons with alpha-numeric symbols, function keys and hand-writing recognition capabilities that are recognized using input data from the touch screen sensor. Thus, with the touch screen sensor, a user may navigate through the game service interface and supply gaming information required to obtain a game service. In one embodiment, a registration game service interface is provided that allows a player to join a player tracking program at the gaming machine. In another embodiment, a metering game service interface with a calculator is provided that allows a casino operator to obtain and operate on metering information at a gaming machine.

87 Claims, 14 **Drawing Sheets**



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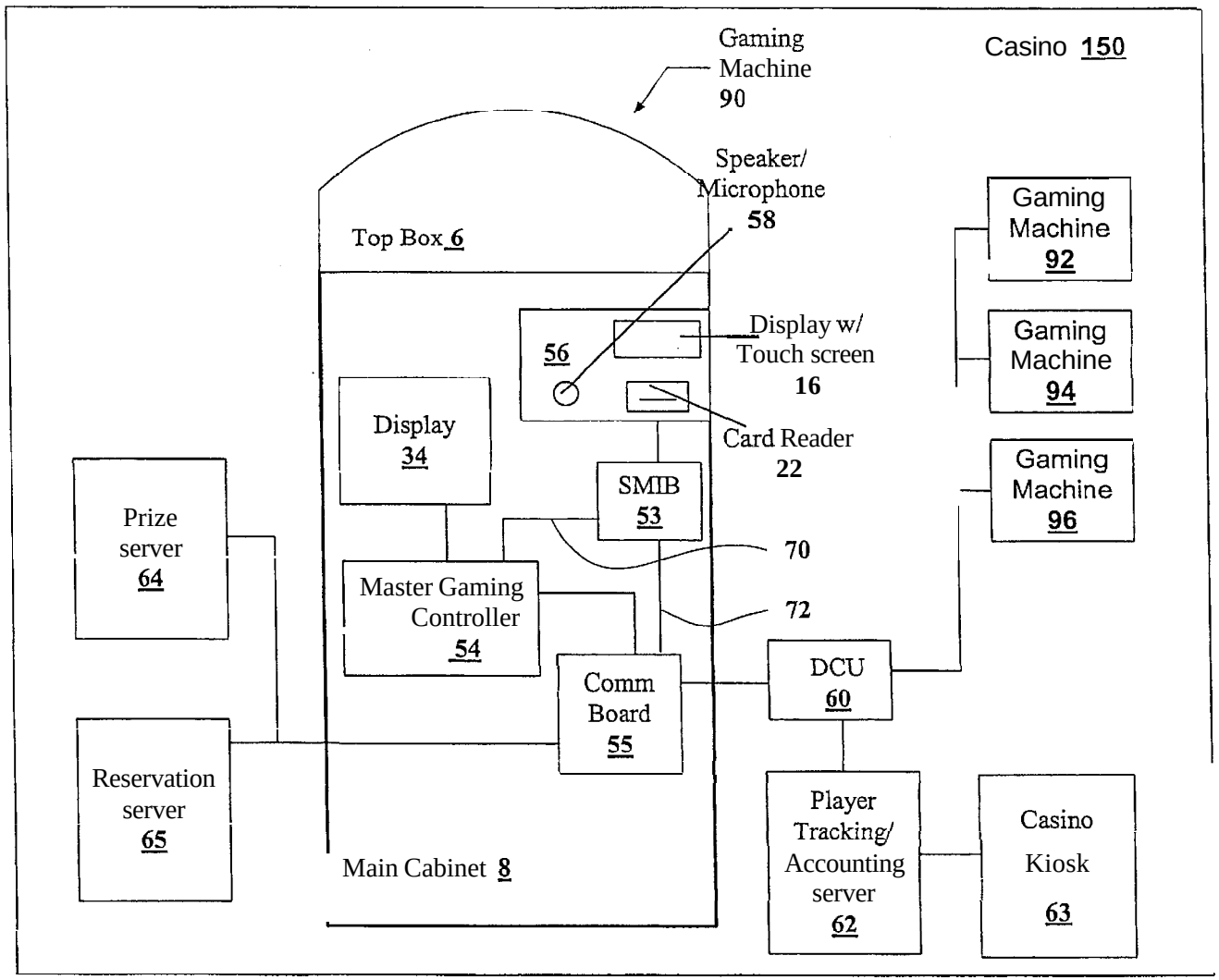
Gaming Machine 90
Casino 150
Speaker/ Microphone 58
Top Box 6
Gaming Machine 92
Gaming Machine 94
Gaming Machine 96
56
Display w/ Touch screen 16
Card Reader 22
Display 34
SMIB 53
Prize server 64
70
Master Gaming Controller 54
72
DCU 60
Comm Board 55
Reservation server 65
Player Tracking/ Accounting server 62
Casino Kiosk 63
Main Cabinet 8

FIG. 1

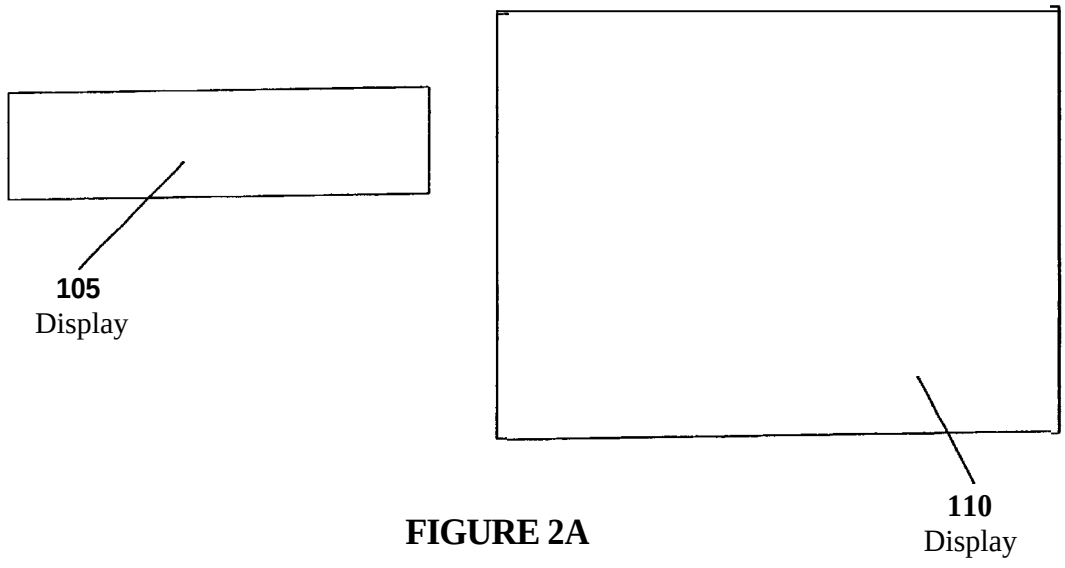

FIGURE 2A

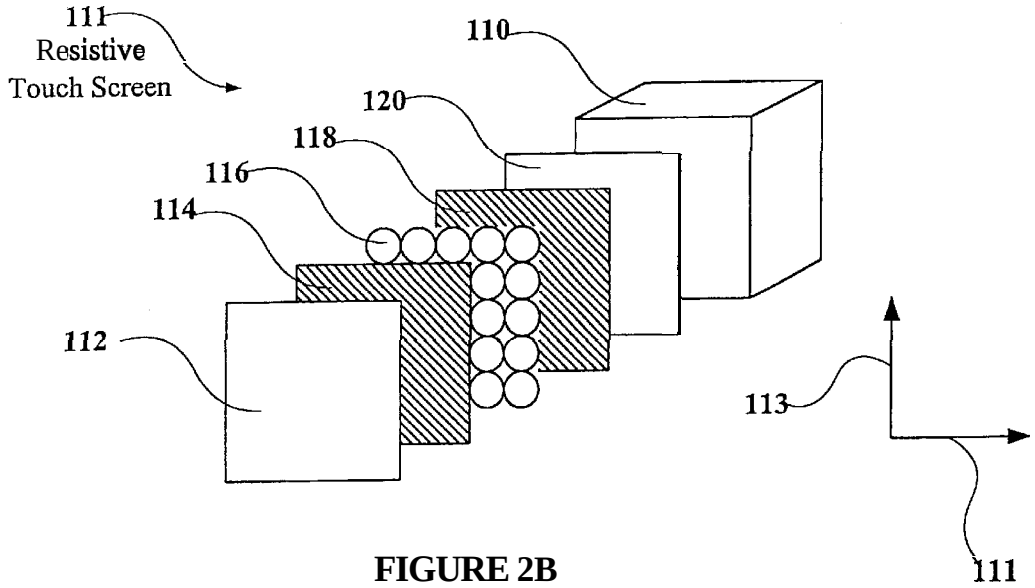

FIGURE 2B

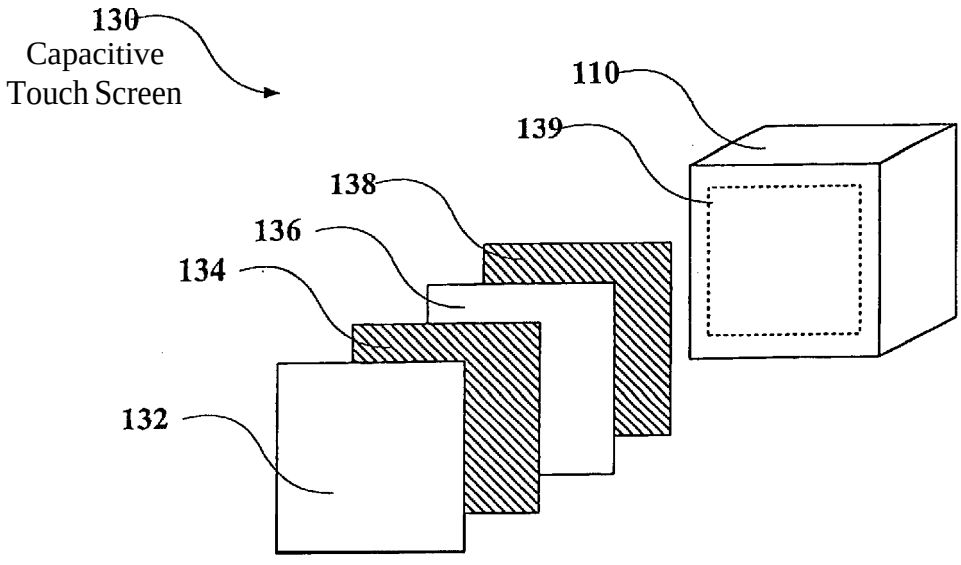

FIGURE 2C

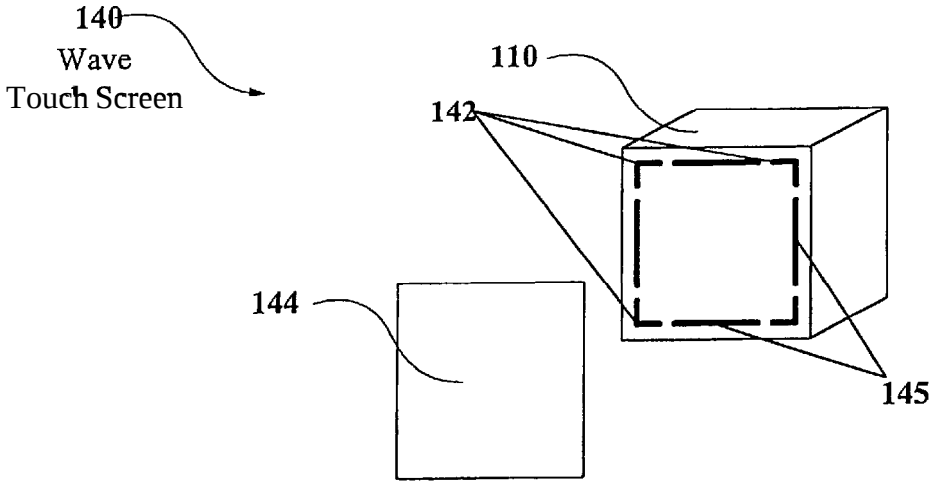

FIGURE 2D

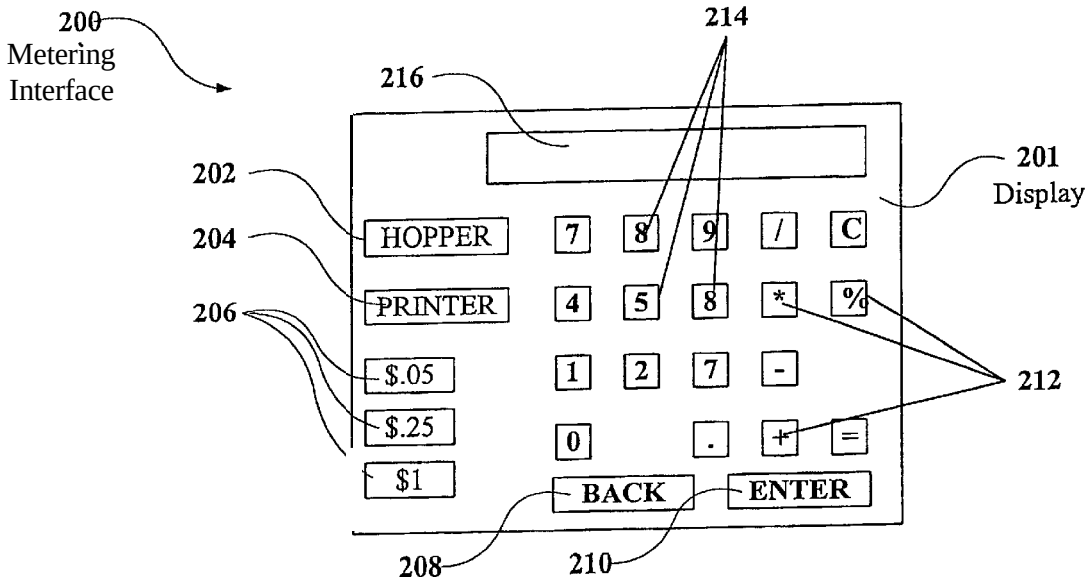

FIGURE 3A

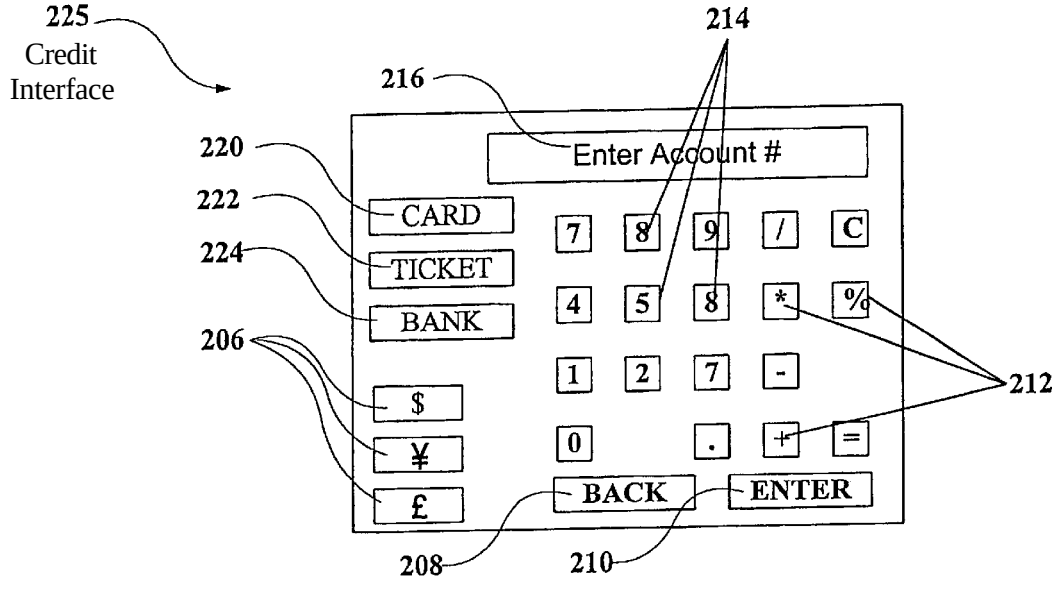

FIGURE 3B

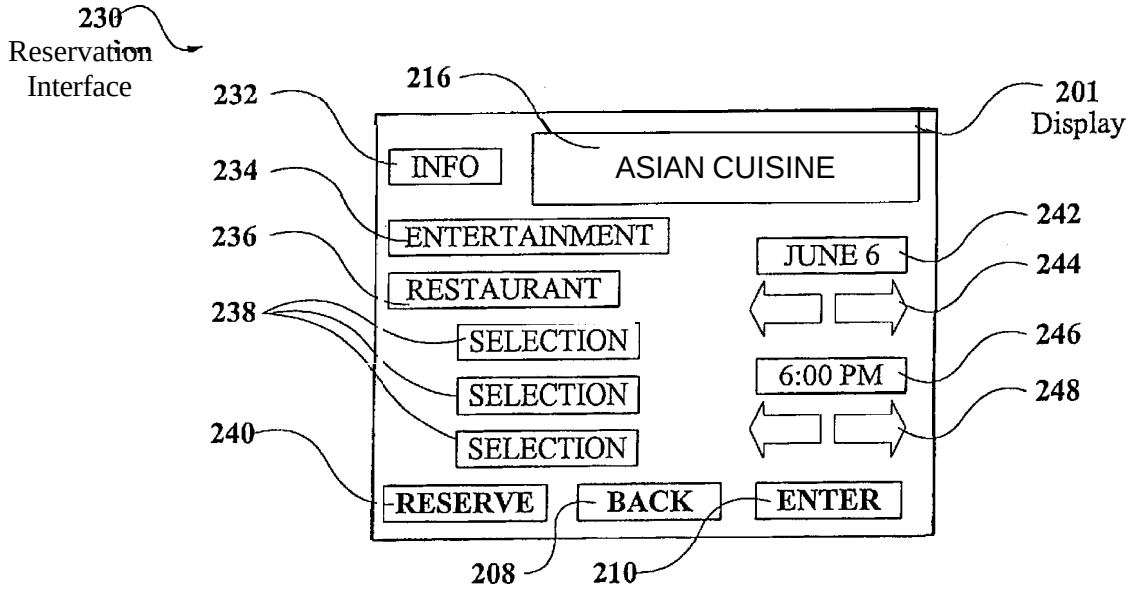

FIGURE 3C

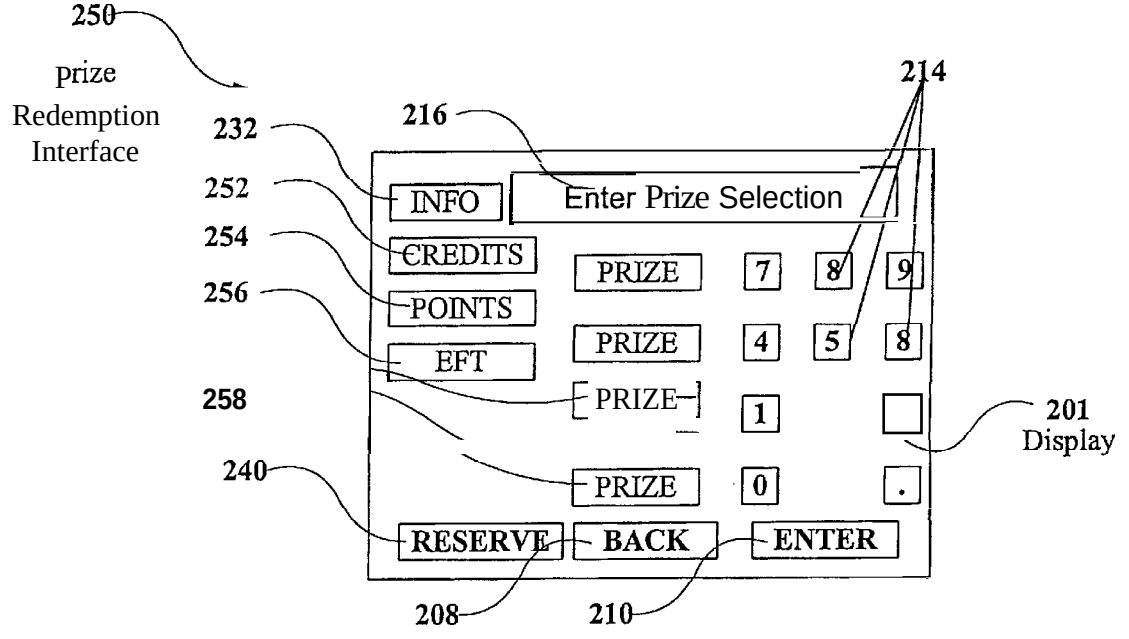

FIGURE 3D

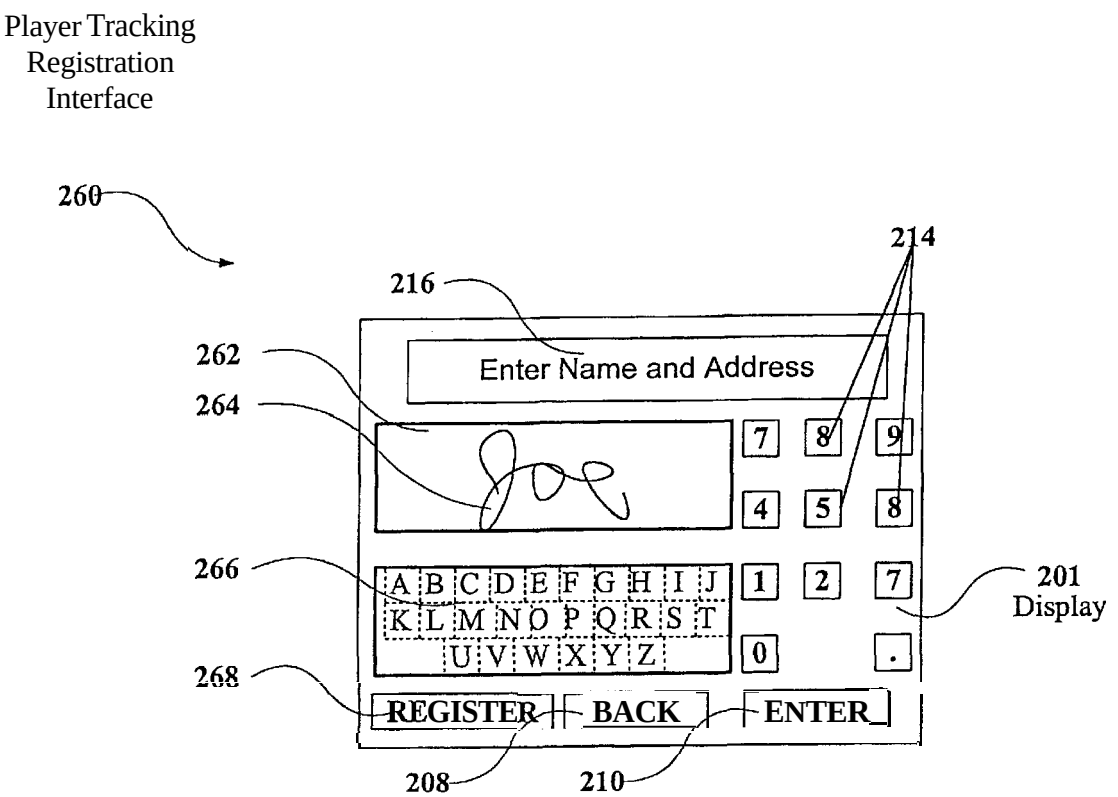
Player Tracking
Registration
Interface
260
214
216
Enter Name and Address
262
264
7
8
9
4
5
8
266
A B C D E F G H I J
K L M N O P Q R S T
U V W X Y Z
1
2
7
201
Display
0
.
268
REGISTER
BACK
ENTER
208
210

FIGURE 3E

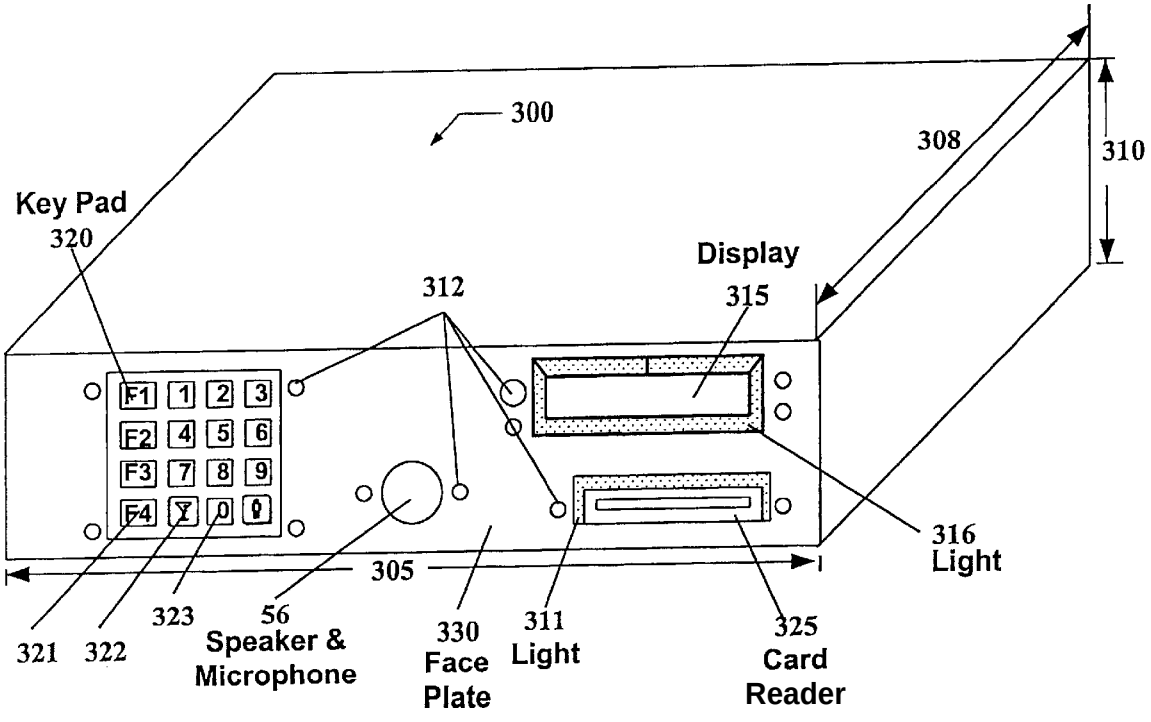
300
308
310
Key Pad
320
312
Display
315
F1 1 2 3
F2 4 5 6
F3 7 8 9
F4 X 0
316
Light
305
321
322
323
56
Speaker &
Microphone
330
Face
Plate
311
Light
325
Card
Reader

FIG. 4A

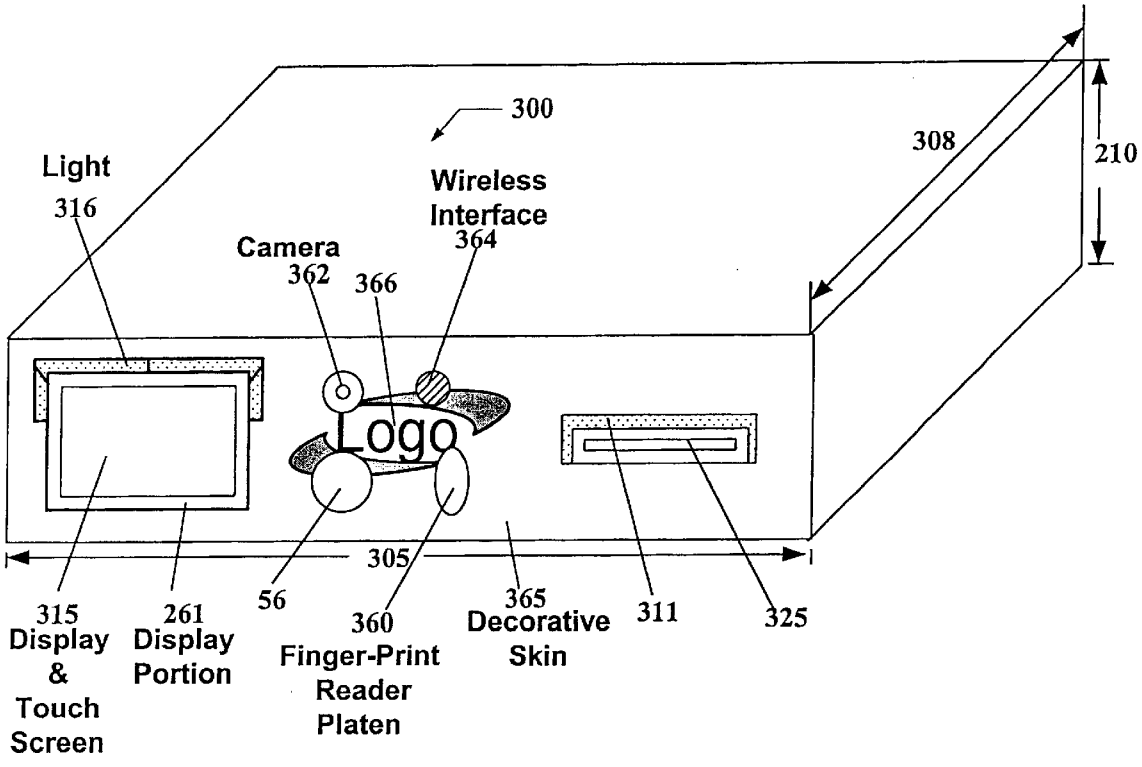
300
Light
316
Wireless
Interface
364
Camera
362
366
308
210
Logo
305
315
Display
&
Touch
Screen
261
Display
Portion
56
360
Finger-Print
Reader
Platen
365
Decorative
Skin
311
325

FIG. 4B

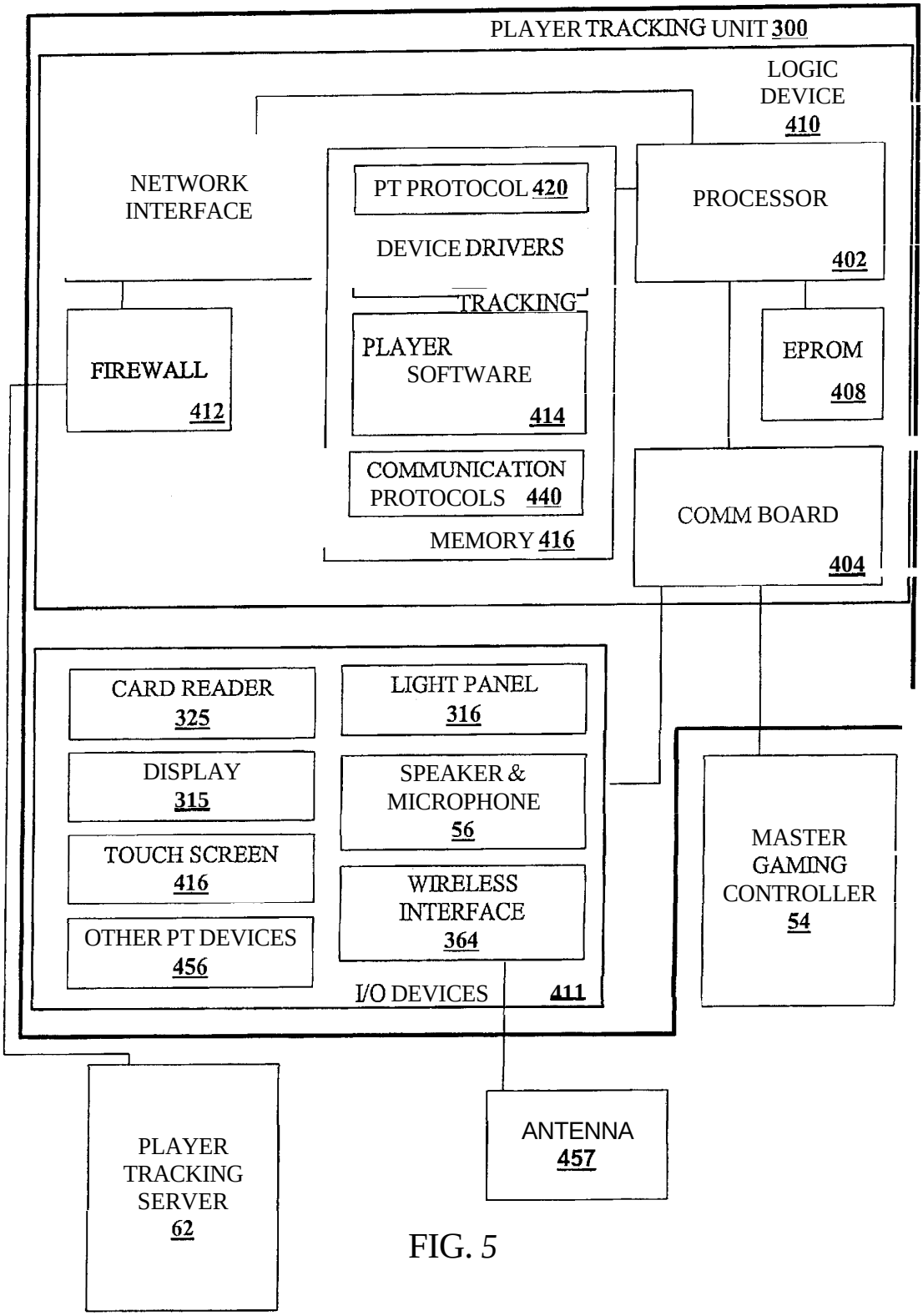
PLAYER TRACKING UNIT 300
LOGIC DEVICE 410
NETWORK INTERFACE
PT PROTOCOL 420
DEVICE DRIVERS
TRACKING
PLAYER SOFTWARE 414
COMMUNICATION PROTOCOLS 440
MEMORY 416
PROCESSOR 402
EPROM 408
FIREWALL 412
COMM BOARD 404
CARD READER 325
DISPLAY 315
TOUCH SCREEN 416
OTHER PT DEVICES 456
LIGHT PANEL 316
SPEAKER & MICROPHONE 56
WIRELESS INTERFACE 364
I/O DEVICES 411
MASTER GAMING CONTROLLER 54
PLAYER TRACKING SERVER 62
ANTENNA 457

FIG. 5

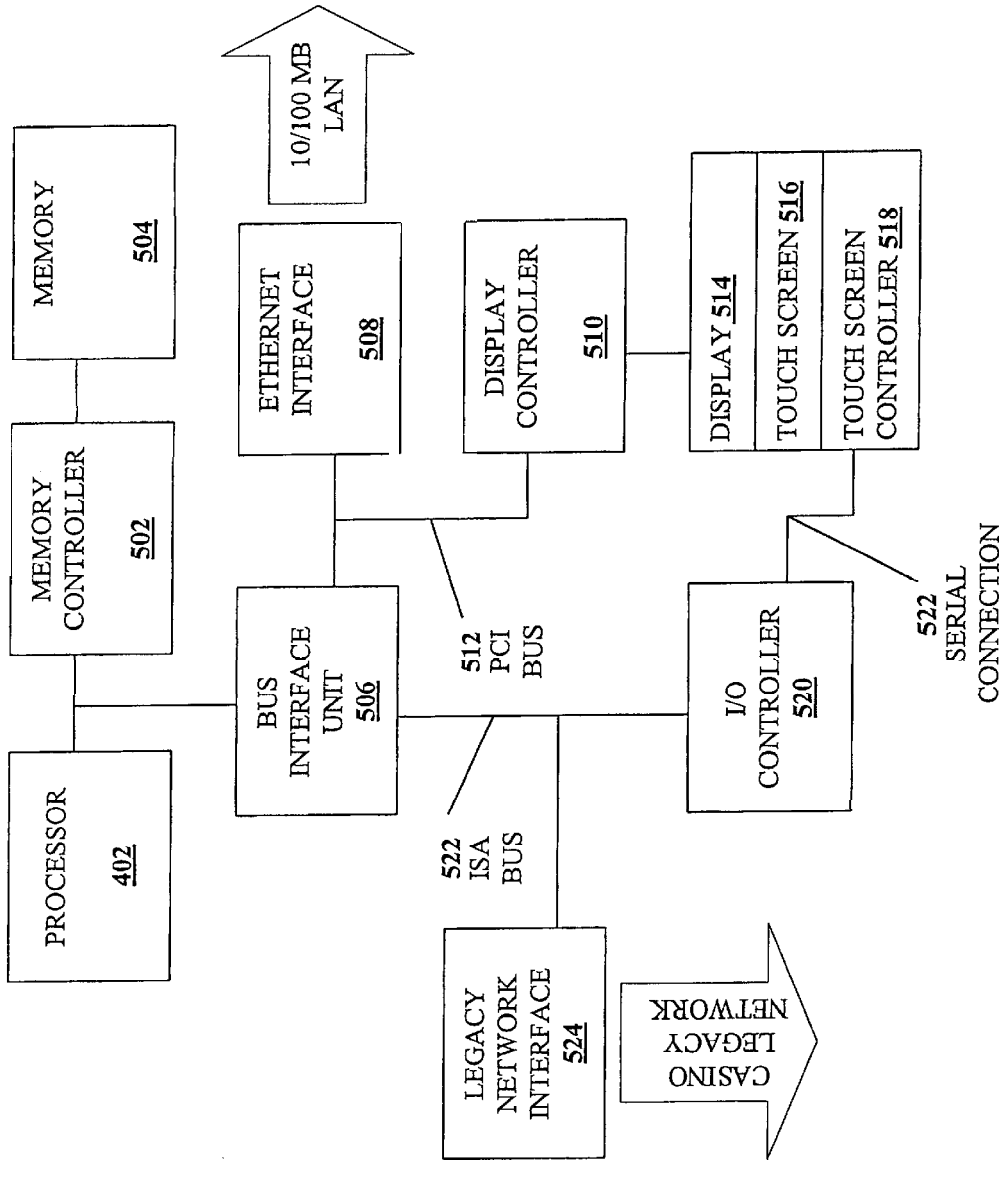
10/100 MB LAN
MEMORY 504
ETHERNET INTERFACE 508
DISPLAY CONTROLLER 510
DISPLAY 514
TOUCH SCREEN 516
TOUCH SCREEN CONTROLLER 518
MEMORY CONTROLLER 502
BUS INTERFACE UNIT 506
512 PCI BUS
I/O CONTROLLER 520
522 SERIAL CONNECTION
PROCESSOR 402
522 ISA BUS
LEGACY NETWORK INTERFACE 524
CASINO LEGACY NETWORK

FIGURE 6

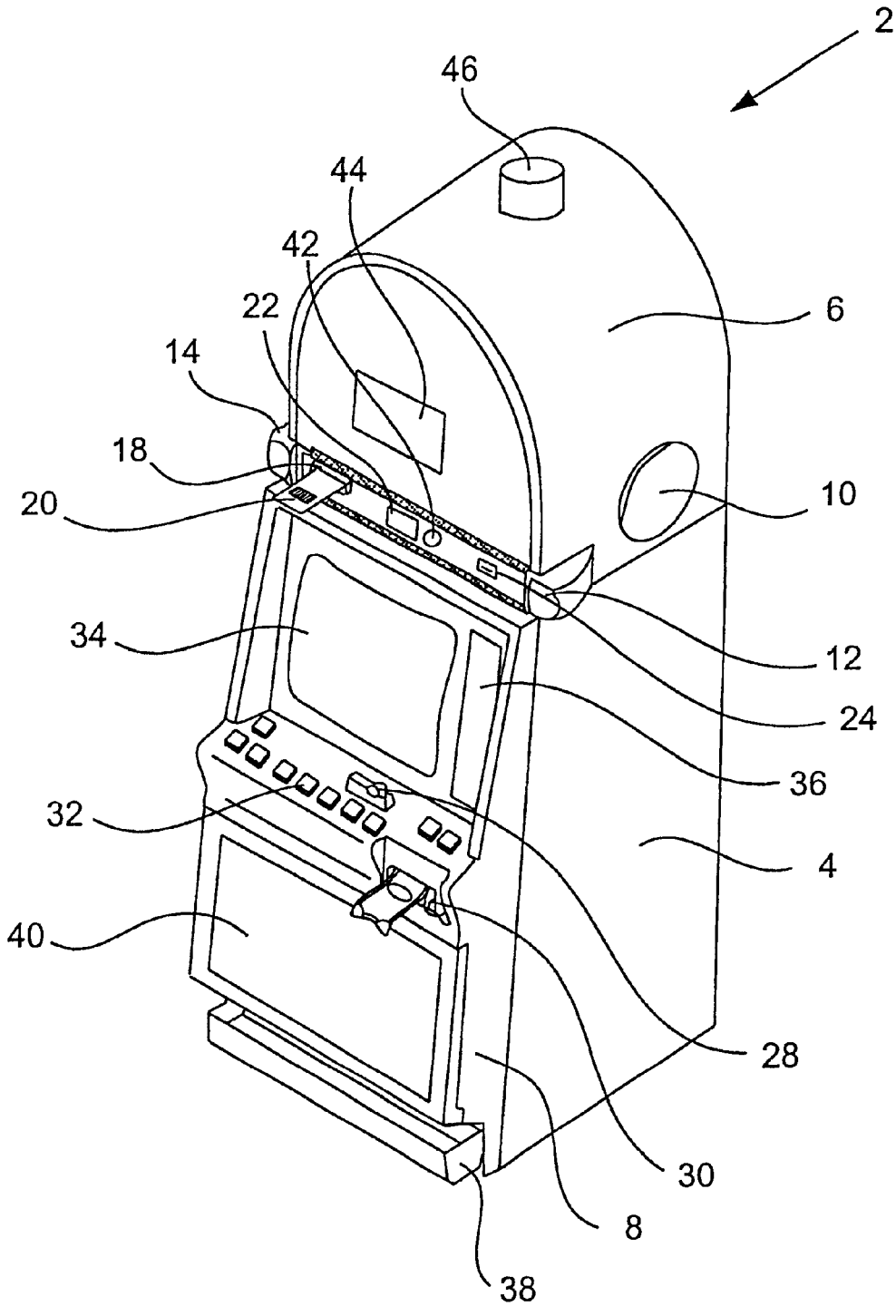

Figure 7

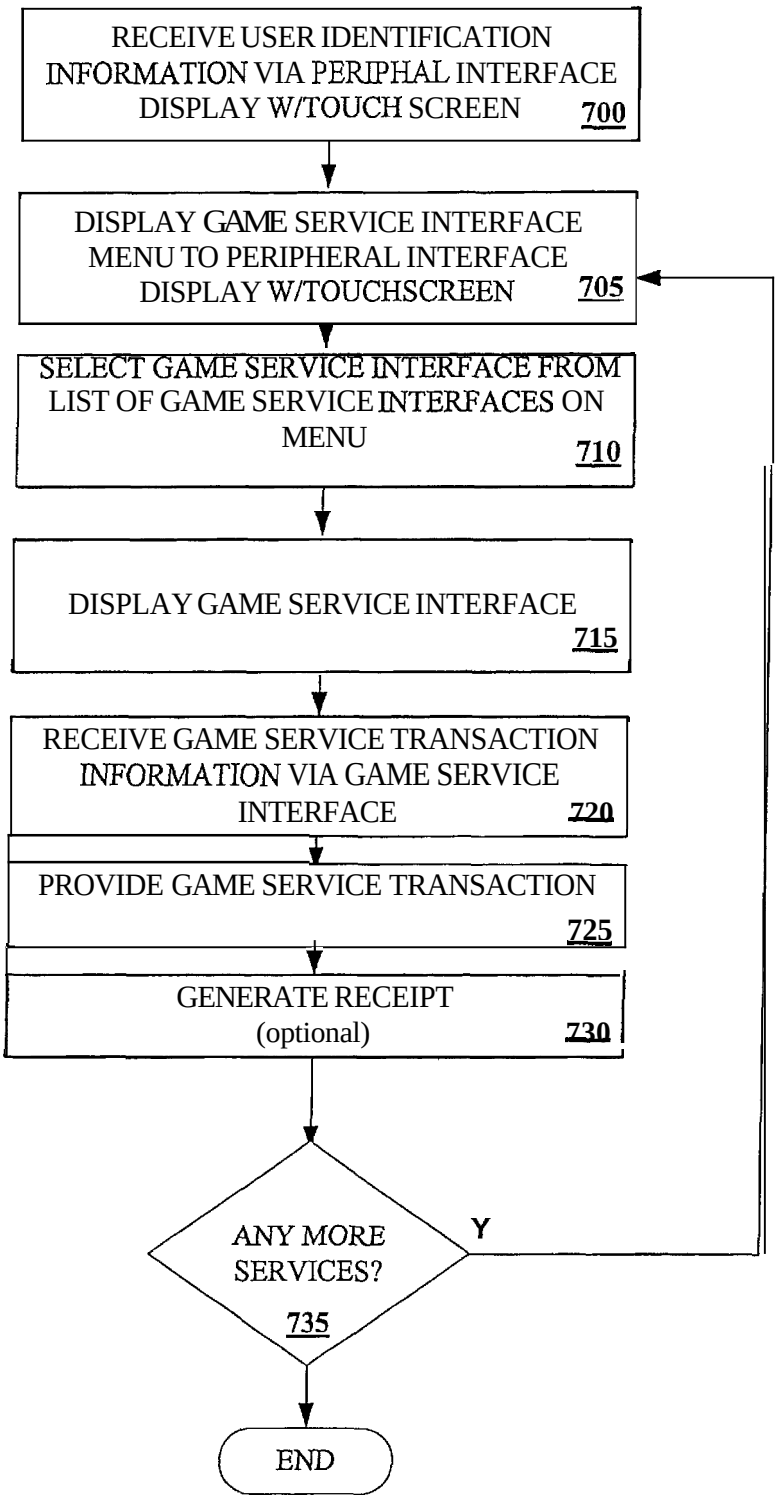
RECEIVE USER IDENTIFICATION INFORMATION VIA PERIPHAL INTERFACE DISPLAY W/TOUCH SCREEN 700
DISPLAY GAME SERVICE INTERFACE MENU TO PERIPHERAL INTERFACE DISPLAY W/TOUCHSCREEN 705
SELECT GAME SERVICE INTERFACE FROM LIST OF GAME SERVICE INTERFACES ON MENU 710
DISPLAY GAME SERVICE INTERFACE 715
RECEIVE GAME SERVICE TRANSACTION INFORMATION VIA GAME SERVICE INTERFACE 720
PROVIDE GAME SERVICE TRANSACTION 725
GENERATE RECEIPT (optional) 730
ANY MORE SERVICES? 735
Y
END

FIGURE 8

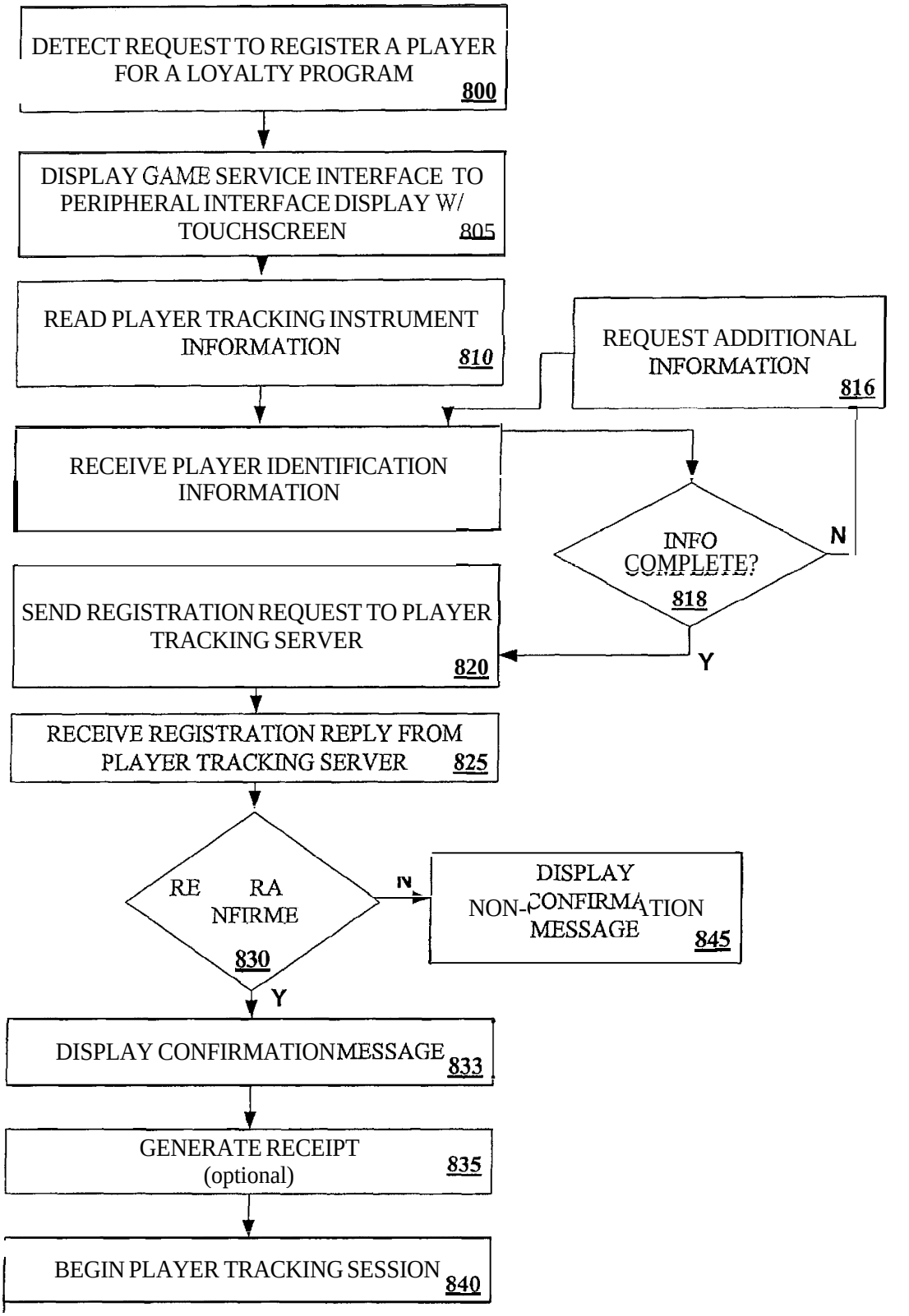
DETECT REQUEST TO REGISTER A PLAYER FOR A LOYALTY PROGRAM 800
DISPLAY GAME SERVICE INTERFACE TO PERIPHERAL INTERFACE DISPLAY W/ TOUCHSCREEN 805
READ PLAYER TRACKING INSTRUMENT INFORMATION 810
REQUEST ADDITIONAL INFORMATION 816
RECEIVE PLAYER IDENTIFICATION INFORMATION
INFO COMPLETE? 818
N
Y
SEND REGISTRATION REQUEST TO PLAYER TRACKING SERVER 820
RECEIVE REGISTRATION REPLY FROM PLAYER TRACKING SERVER 825
RE RA NFIRME 830
N
DISPLAY NON-CONFIRMATION MESSAGE 845
Y
DISPLAY CONFIRMATIONMESSAGE 833
GENERATE RECEIPT (optional) 835
BEGIN PLAYER TRACKING SESSION 840

FIGURE 9

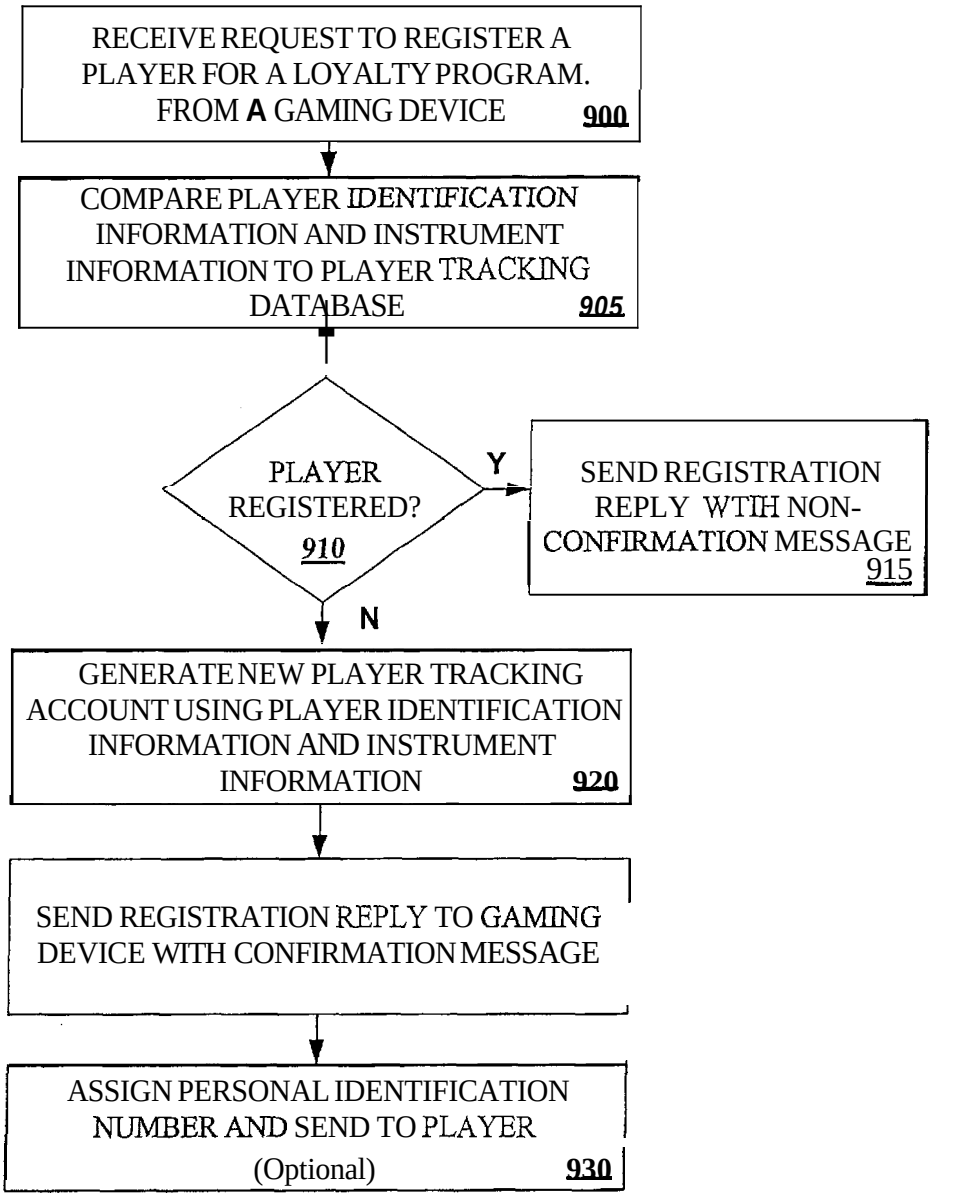
RECEIVE REQUEST TO REGISTER A PLAYER FOR A LOYALTY PROGRAM. FROM A GAMING DEVICE 900
COMPARE PLAYER IDENTIFICATION INFORMATION AND INSTRUMENT INFORMATION TO PLAYER TRACKING DATABASE 905
PLAYER REGISTERED? 910
Y
SEND REGISTRATION REPLY WTIH NON-CONFIRMATION MESSAGE 915
N
GENERATE NEW PLAYER TRACKING ACCOUNT USING PLAYER IDENTIFICATION INFORMATION AND INSTRUMENT INFORMATION 920
SEND REGISTRATION REPLY TO GAMING DEVICE WITH CONFIRMATION MESSAGE
ASSIGN PERSONAL IDENTIFICATION NUMBER AND SEND TO PLAYER (Optional) 930

FIGURE 10

GAME SERVICE INTERFACES FOR PLAYER TRACKING TOUCH SCREEN DISPLAY

BACKGROUND OF THE INVENTION

This invention relates to game playing methods for gaming machines such as video slot machines and video poker machines. More particularly, the present invention relates to methods and apparatus for providing player tracking services and related gaming services on a gaming machine.

There are a wide variety of associated devices that can be connected to a gaming machine such as a slot machine or video poker machine. Some examples of these devices are player tracking units, lights, ticket printers, card readers, speakers, bill validators, ticket readers, coin acceptors, display panels, key pads, coin hoppers and button pads. Many of these devices are built into the gaming machine or components associated with the gaming machine such as a top box which usually sits on top of the gaming machine.

Typically, utilizing a master gaming controller, the gaming machine controls various combinations of devices that allow a player to play a game on the gaming machine and also encourage game play on the gaming machine. For example, a game played on a gaming machine usually requires a player to input money or indicia of credit into the gaming machine, indicate a wager amount, and initiate a game play. These steps require the gaming machine to control input devices, including bill validators and coin acceptors, to accept money into the gaming machine and recognize user inputs from devices, such as button pads and levers, to determine the wager amount and initiate game play.

After game play has been initiated, the gaming machine determines a game outcome, presents the game outcome to the player and may dispense an award of some type depending on the outcome of the game. A game outcome presentation may utilize many different visual and audio components such as flashing lights, music, sounds and graphics. The visual and audio components of the game outcome presentation may be used to draw a players attention to various game features and to heighten the players interest in additional game play. Maintaining a game player's interest in game play, such as on a gaming machine or during other gaming activities, is an important consideration for an operator of a gaming establishment.

One related method of gaining and maintaining a game player's interest in game play are player tracking programs which are offered at various casinos. Player tracking programs provide rewards to players that typically correspond to the player's level of patronage (e.g., to the player's playing frequency and/or total amount of game plays at a given casino). Player tracking rewards may be free meals, free lodging and/or free entertainment. These rewards may help to sustain a game player's interest in additional game play during a visit to a gaming establishment and may entice a player to visit a gaming establishment to partake in various gaming activities.

In general, player tracking programs may be applied to any game of chance offered at a gaming establishment. In particular, player tracking programs are very popular with players of mechanical slot gaming machines and video slot gaming machines. In a gaming machine, a player tracking program is implemented using a player tracking unit installed in the gaming machine and in communication with a remote player tracking server. Player tracking units are

usually manufactured as an after-market device separate from the gaming machine. Many different companies manufacture player tracking units as part of player tracking1 accounting systems. These player tracking/accounting systems are used in most casinos. Most casinos utilize only one type of player tracking system (i.e. from one manufacturer) while the type of player tracking system varies from casino to casino.

Player tracking cards and player tracking programs are becoming more and more popular. They have become a de facto marketing method of doing business at casinos. The programs allow a casino to identify and reward customers based upon their previous game play history. In particular, a goal of the casinos is to identify and then to provide a higher level of service to certain groups of players identified as especially valuable to the casinos. An incentive of a casino for providing these services is to generate "brand" loyalty, and thus, repeat business from its valued customers. For instance, players that visit the casino, on average, once a week may be deemed as "special" customers and the casino may desire to cultivate a "special" relationship with these customers. In general, the selection of gaming services offered to players via loyalty programs, such as player tracking programs, is increasing. Also, the gaming services offered to a particular player are becoming more focused based upon the desires of a particular player.

In the past, player tracking units have been primarily designed to allow a player to enter a magnetic striped card and possibly enter an identification code using a key pad. Therefore, the player tracking unit interface, which has been designed to perform these tasks, typically includes a key pad, a card reader and a simple display such as an LED. Thus, a disadvantage of current player tracking units is that the player interface is not necessarily suited for providing increasingly complex and diverse gaming services to game players that are customized to an individual player's preferences.

In view of the above, it would be desirable to provide apparatus and methods for a player tracking unit interface that allows a diverse range of gaming services to be offered to a player playing a game on a gaming machine.

SUMMARY OF THE INVENTION

This invention addresses the needs indicated above by providing a player tracking unit with a touch screen display with a touch screen controller integrated into the touch screen sensor assembly. Game service interfaces may be presented on the touch screen display that allow a user to obtain one or more game services. The game service interfaces may include buttons with alpha-numeric symbols, function keys and hand-writing recognition capabilities that are recognized using input data from the touch screen sensor. Thus, with the touch screen sensor, a user may navigate through the game service interface and supply gaming information required to obtain a game service. In one embodiment, a registration game service interface is provided with the player tracking unit that allows a player to join a player tracking program at the gaming machine. In another embodiment, a metering game service interface with a calculator is provided that allows a casino operator to obtain and operate on metering information at a gaming machine.

One aspect of the present invention provides a player tracking unit. The player tracking unit may be generally characterized as including: 1) a display; 2) a touch screen mounted over the display; 3) one or more of the following

player tracking interface devices: a card reader, a bonus button, a microphone, a sound projection device, a camera, a wireless interface device, a proximity sensor, a key pad, a bar-code reader, an illumination device and a finger print reader; 4) a logic device designed or configured; a) to communicate with the display, the touch screen, the one or more player tracking interface devices, a master gaming controller that controls a game played on a gaming machine and a player tracking server and b) to execute gaming logic; and gaming logic for generating a key pad interface on the display and receiving input signals from the touch screen corresponding to input buttons on the key pad interface. The touch screen may include a touch screen sensor, a touch screen assembly enclosing the touch screen sensor; and a touch screen controller integrated into the touch screen assembly. When one of the player tracking devices is an illumination device, the illumination device may be illuminated to signal a casino service representative to register a player to a loyalty program.

In particular embodiments, the touch screen sensor is at least one of a capacitive touch screen sensor, a resistive touch screen sensor and an acoustic wave touch screen sensor. The touch screen may be activated using a finger or a stylus. The display used with the touch screen may be at least one of a LED display, a LCD display, such as a color LCD, a plasma display, a CRT or any other conventional display technology. In one embodiment, the resolution of the display may be 320 pixels by 240 pixels. However, the resolution of the display may be higher or lower than 320 by 240 pixels.

In other embodiments, the input buttons on the key pad interface may be selected from the group consisting of alphabetic symbols, numeric symbols and functional The input buttons on the key pad interface may be used to input player tracking identification information such as PIN number or may be used to order a drink. The input buttons may be rendered in 3-D, animated, shaded in color and combinations thereof. The alphabetic symbols may be selected from one or more alphabets. The functional symbols may be animated. Further, when one of the player tracking interface devices is a sound projection device and when the input signals for at least one of the input buttons is received, a sound may be emitted from a sound projection device.

The player tracking unit may use many different communication interfaces and communication protocols. For instance, the player tracking unit may include an Ethernet interface used to communicate with remote devices. The logic device on the player tracking unit may communicate with the master gaming controller using at least one of USB, Firewire, RS-232, IrDA and IEE1394. In addition, the logic device may communicate with master gaming controller using a wireless communication protocol such as Bluetooth, IrDA, IEEE 802.11a, IEEE 802.11b, IEEE 802.11x (e.g. other IEEE 802.11 standards such as IEEE 802.11c, IEEE 802.11d, IEEE 802.11e, etc.), hiperlan/2, and HomeRF. Further, the logic device may be designed or configured to communicate with touch screen using at least one of a USB communication standard, an IEEE 1394 communication standard, a PSR communication standard or a Firewire communication standard.

In yet other embodiments, the player unit may include gaming logic for: a) generating a game interface on the display and receiving input signals from the touch screen corresponding to input areas on the game interface where the game interface is used to play a game, b) generating a bonus game interface on the display and receiving input signals from the touch screen corresponding to input areas on the bonus game interface where the bonus game interface is used to present a bonus game, c) generating a writing interface on the display and receiving input signals from the touch screen corresponding to game information written on the writing interface and recognizing alpha-numeric characters corresponding to the game information written on the writing interface, d) generating a loyalty program account interface on the display and receiving input signals from the touch screen corresponding to input areas on the loyalty program account interface where the loyalty program account interface is used to view loyalty program account information, e) generating a metering information interface on the display and receiving input signals from the touch screen corresponding to input areas on the metering information interface where the metering information interface is used to view metering information from the gaming machine, f) generating a loyalty program registration interface on the display and receiving input signals from the touch screen corresponding to input areas on the loyalty program registration interface where the loyalty program registration interface is used to register a person in a loyalty program, g) generating an entertainment content interface on the display and receiving input signals from the touch screen corresponding to input areas on the entertainment content interface wherein the entertainment content interface is used to select an entertainment content source to be displayed on the display, h) generating a prize redemption interface on the display and receiving input signals from the touch screen corresponding to input areas on the prize redemption interface where the prize redemption interface is used to redeem, i) generating a calculator interface on the display and receiving input signals from the touch screen corresponding to input areas on the calculator interface where the calculator interface is used to perform arithmetic operations, j) generating a diagnostic interface on the display and receiving input signals from the touch screen corresponding to input areas on the diagnostic interface where the diagnostic interface is used to obtain status information for gaming device on the gaming machine, k) generating a web interface on the display and receiving input signals from the touch screen corresponding to input areas on the web interface wherein the web interface is used to view web pages on the Internet, l) generating a reservation interface on the display and receiving input signals from the touch screen corresponding to input areas on the reservation interface where the reservation interface is used to make a reservations for at least one of food, lodging and entertainment, m) generating a communication interface on the display and receiving input signals from the touch screen corresponding to input areas on the communication interface where the communication interface is used to communicate with another person, n) generating an account interface on the display and receiving input signals from the touch screen corresponding to input buttons on the account interface where the account interface is used to transfer funds to a banking account.

Another aspect of the present invention provides a gaming machine. The gaming machine may be generally characterized as including: i) a master gaming controller designed or configured to control one or more games played on the gaming machine and to execute gaming logic and ii) a player tracking unit. The player tracking unit may be generally characterized as including: 1) a display, 2) a touch screen mounted over the display; 3) one or more of the following player tracking interface devices: a card reader, a bonus button, a microphone, a sound projection device, a camera, a wireless interface device, a proximity sensor, a bar-code reader, an illumination device and a finger print reader; 4) a

logic device designed or configured; a) to communicate with the display, the touch screen, the one or more player tracking interface devices, a master gaming controller that controls a game played on a gaming machine and a player tracking server and b) to execute gaming logic; and 5) gaming logic for generating a key pad interface on the display and receiving input signals from the touch screen corresponding to input buttons on the key pad interface. The one or more games played on the gaming machine may be selected from but are not limited to the group consisting of video slot games, mechanical slot games, video black jack games, video poker games, video keno games, video pachinko games, video card games, video games of chance and combinations thereof.

In particular embodiments, the master gaming controller may be designed or configured to operate one or more of the player tracking interface devices, the display and the touch screen. In addition, at least one of the logic device and the master gaming controller may be designed or configured to communicate with a portable wireless device such as personal digital assistant. The player tracking unit may send loyalty program information to the portable wireless device and receives loyalty program information from the portable wireless device. The logic device and the master gaming controller may communicate with the portable wireless device using a wireless communication protocol such as Bluetooth, IrDA, IEEE 802.11a, IEEE 802.11b, IEEE 802.11x (e.g. other IEEE 802.11 standards such as IEEE 802.11c, IEEE 802.11d, IEEE 802.11e, etc.), hiperlan/2, and HomeRF. Also, the master gaming controller and the logic device communicate may communicate with each other using a wireless communication protocol such as Bluetooth, IrDA, IEEE 802.11a, IEEE 802.11b, IEEE 802.11x (e.g. other IEEE 802.11 standards such as IEEE 802.11c, IEEE 802.11d, IEEE 802.11e, etc.), hiperlan/2, and HomeRF or a wire communication protocol such as USB, IEE1394, RS-232 and Firewire.

In particular embodiments, the logic device or the master gaming controller may execute gaming logic for: a) generating a game interface on the display and receiving input signals from the touch screen corresponding to input areas on the game interface where the game interface is used to play a game, b) generating a bonus game interface on the display and receiving input signals from the touch screen corresponding to input areas on the bonus game interface where the bonus game interface is used to present a bonus game, c) generating a writing interface on the display and receiving input signals from the touch screen corresponding to game information written on the writing interface and recognizing alpha-numeric characters corresponding to the game information written on the writing interface, d) generating a loyalty program account interface on the display and receiving input signals from the touch screen corresponding to input areas on the loyalty program account interface where the loyalty program account interface is used to view loyalty program account information, e) generating a metering information interface on the display and receiving input signals from the touch screen corresponding to input areas on the metering information interface where the metering information interface is used to view metering information from the gaming machine, f) generating a loyalty program registration interface on the display and receiving input signals from the touch screen corresponding to input areas on the loyalty program registration interface where the loyalty program registration interface is used to register a person in a loyalty program, g) generating an entertainment content interface on the display and receiving input signals from the touch screen corresponding to input areas on the entertainment content interface wherein the entertainment content interface is used to select an entertainment content source to be displayed on the display, h) generating a prize redemption interface on the display and receiving input signals from the touch screen corresponding to input areas on the prize redemption interface where the prize redemption interface is used to redeem, i) generating a calculator interface on the display and receiving input signals from the touch screen corresponding to input areas on the calculator interface where the calculator interface is used to perform arithmetic operations, j) generating a diagnostic interface on the display and receiving input signals from the touch screen corresponding to input areas on the diagnostic interface where the diagnostic interface is used to obtain status information for gaming device on the gaming machine, k) generating a web interface on the display and receiving input signals from the touch screen corresponding to input areas on the web interface wherein the web interface is used to view web pages on the Internet, l) generating a reservation interface on the display and receiving input signals from the touch screen corresponding to input areas on the reservation interface where the reservation interface is used to make a reservations for at least one of food, lodging and entertainment, m) generating a communication interface on the display and receiving input signals from the touch screen corresponding to input areas on the communication interface where the communication interface is used to communicate with another person, n) generating an account interface on the display and receiving input signals from the touch screen corresponding to input buttons on the account interface where the account interface is used to transfer funds to a banking account.

Another aspect of the present invention provides a player tracking system. The player tracking system may be generally characterized as including: 1) a player tracking server; 2) a plurality of gaming machines, and 3) a network designed or configured to allow communication between the plurality of gaming machines and the player tracking server. The gaming machines in the player tracking system may be generally characterized as including a) a master gaming controller designed or configured to control one or more games played on the gaming machine and to execute gaming logic; b) a player tracking unit and c) gaming logic for generating a key pad interface on a display located on the player tracking unit and receiving input signals from a touch screen located on the player tracking unit corresponding to input buttons on the key pad interface. The player tracking units on the gaming machines may be generally characterized as including: i) a display, ii) a touch screen mounted over the display; iii) one or more of the following player tracking interface devices: a card reader, a bonus button, a microphone, a sound projection device, a camera, a wireless interface device, a proximity sensor, a bar-code reader, an illumination device and a finger print reader; iv) a logic device designed or configured to communicate with the display, the touch screen, the one or more player tracking interface devices, a master gaming controller that controls a game played on a gaming machine and a player tracking server and to execute gaming logic.

Another aspect of the present invention provides a method of generating one or more game services on a gaming machine using a touch screen display mounted in a player tracking unit. The method may be generally characterized as including 1) displaying a key pad interface with a plurality of input buttons to the touch screen display; 2) receiving one or more first input signals from a touch screen wherein each

input signal corresponds to a selection of one of the plurality of input buttons on the key pad interface; 3) displaying a list of game services on the touch screen display; 4) receiving a second input signal from the touch screen that contains information indicating a selected game service from the list of game services; 5) displaying a game service interface with a plurality of input buttons to the touch screen display wherein the input buttons may be used to provide the selected game service; and 6) receiving a plurality of third input signals from the touch screen wherein the plurality of third input signals are used to select input buttons on the game service interface. The game service may be selected but are not to the group consisting of: a) playing a game, b) playing a bonus game, c) registering a player to loyalty program, d) displaying gaming machine metering information, e) performing arithmetic operations, f) making a reservation, g) providing gaming machine diagnostic information, h) displaying loyalty account information, i) redeeming a prize, j) making a food, lodging or entertainment reservation, k) communicating with another person, 1) providing a web-based service, m) providing a banking transaction and n) machine diagnostics.

In particular embodiments, the method may also include: a) initiating a loyalty program session, b) detecting an input signal to initiate a loyalty program session, c) validating an identity of a user of the player tracking unit and varying the list of game services according to the identity of the user, d) displaying a hand-writing interface to the touch screen display and receiving written input from the hand-writing interface on the touch screen where the touch screen is activated using a finger or a stylus and e) providing a receipt.

Another aspect of the invention pertains to computer program products including a machine-readable medium on which is stored program instructions for implementing any of the methods described above. Any of the methods of this invention may be represented as program instructions and/or data structures, databases, etc. that can be provided on such computer readable media such as smart card, compact flash memory card, memory stick, RAM, CD-ROM, CD-DVD, hard drive, etc.

These and other features and advantages of the invention will be spelled out in more detail below with reference to the associated drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a block diagram of a number of gaming machines with player tracking units connected to servers providing gaming services and player tracking services.

FIGS. 2A–2D are block diagrams of touch screens and displays for some embodiments of the present invention.

FIGS. 3A–3E are block diagram of game service interface displays for some embodiments of the present invention.

FIGS. 4A and 4B are perspective diagrams of player tracking units of the present invention.

FIG. 5 is a block diagram of the components of a player tracking unit of the present invention.

FIG. **6** is a block diagram of processor board with a touch screen display in a player tracking unit for one embodiment of the present invention.

FIG. 7 is a perspective drawing of a video gaming machine of the present invention.

FIG. **8** is a flow chart of a method for providing gaming services on a touch screen display of the present invention.

FIG. **9** is a flow chart of a method for providing a "point of play" loyalty program registration on a gaming machine of the present invention.

FIG. **10** is a flow chart of a method for providing a "point of play" loyalty program registration on a player tracking server of the present invention.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

In the present invention as shown in FIG. **1,** a touch screen display **16** may be used as an interface to provide player tracking services and to provide other game services to a player playing a game on a gaming machine. More specifically, the touch screen display **16** may be used as an interface by a player to: 1) input player tracking identification information, 2) view account information and perform account transactions for accounts such as player tracking accounts and bank accounts, 3) receive operating instructions related to the player tracking unit and the gaming machine, 4) redeem prizes or comps including using player tracking points to redeem the prize or comp, 5) make entertainment service reservations, 6) transfer credits to cashless instruments and other player accounts, 7) participate in casino promotions, *8)* select entertainment choices for output via video and audio output mechanisms on the player tracking unit and the gaming machine, 9) play games and bonus games, 10) request gaming services such as a drink orders, 11) communicate with other players or casino service personnel and 12) register a player for a loyalty program such as a player tracking program. In addition, the touch screen display **16** may be used as an interface by casino service personnel to: a) access diagnostic menus, b) display player tracking unit status information and gaming machine status information, c) access gaming machine metering information and d) display player status information.

In the present invention, to provide the game services described above, game service interfaces are used that may be implemented with the touch screen display **16.** Concepts important to many embodiments of this invention include "loyalty points," "loyalty programs," "loyalty point sessions," and "loyalty program instruments." For instance, many of the described game service interfaces are utilized to provide game services associated with a loyalty program.

Loyalty points refers to any type of points accrued for participating in designated activities at a gaming establishment. Establishments where loyalty points may be accrued include casinos, hotels where gaming activities are provided, stores where gaming activities are permitted, Internet-based gaming activities, and the like. Designated activities include, but are not limited to, gaming activities such as playing gaming machines, card games such as black jack, pai gow poker, baccarat and poker, betting on public event outcomes, table games such as roulette, craps, keno and lotteries, etc. Other patronage activities at gaming establishments may accrue loyalty points. **As** indicated above, loyalty points represent a form of credit accrued for patronage. The points can be redeemed for a variety of goods or services (or translated to other forms of credit) within a gaming establishment or affiliated establishment. Player tracking points are a typical example of "loyalty points."

The administration and tracking of loyalty points is usually provided in a loyalty program. **As** described above, the primary goal of a loyalty program is to generate "brand" loyalty for a particular casino or group of casinos. Aplayer tracking program or a slot club are examples of loyalty programs. A participant in a loyalty program may be awarded with "comps" such as free drinks, free meals, free entertainment and other game services according to their level of participation in the loyalty program.

To participate in a loyalty program, a participant is generally required to join the program. In one embodiment of the present invention, a method is described that allows a player to join a loyalty program at a gaming machine. After joining, the participant is usually presented with a loyalty program instrument. The loyalty program instrument typically contains information that allows a member to accrue loyalty points during designated program activities. For example, for most slot clubs, a player is required to insert a magnetic striped card (i.e. a player tracking card) into the gaming machine before player tracking point points are accrued for the player. Examples of loyalty program instruments include a magnetic striped card, a smart card and a portable wireless device. However, in general, a loyalty program instrument may be any device that carries the information necessary for a player to participate in a loyalty program. For instance, a printed ticket with a bar code, plastic card with a bar code or a room key encoding player tracking information may be used as loyalty program instrument. The bar-coded ticket may be read when inserted into a bill validator on the gaming machine to obtain the necessary player tracking information or from a bar-code scanner located on the gaming machine.

Loyalty point sessions are sessions during which a person is performing the designated activity and during which loyalty points accrue. Loyalty point sessions may be delineated by a first event and a second event. The events are usually dependent on the type of loyalty point instrument employed and the designated loyalty program activity. For instance, in a loyalty program session on a gaming machine where a magnetic-striped player tracking card is used for the loyalty program instrument, the insertion of the card into a card reader on the gaming machine and the removal of the card from the card reader may delineate the beginning and end of the loyalty program session. As another example, in a loyalty program session on a gaming machine where a bar-coded ticket is used for the loyalty program instrument, the insertion of the ticket into a bill-validator and a "cash-out" on the gaming machine may delineate the beginning and end of the loyalty program session.

In FIG. 1, an embodiment of a player tracking system, which may be used as part of loyalty program, is described. In FIGS. 2A–2D, 3A–3E and 4A and 4B, display and touch screen devices (FIGS. 2A–2D), examples of game service interfaces that may be implemented with touch screen devices (FIGS. 3A–3D) and player tracking units incorporating the display and touch screen devices (4A–4D) are described. In FIGS. 5 and 6 block diagrams of player tracking units incorporating the display and touch screen devices of the present invention are described. In FIG. 7, the operation of a gaming machine with the present invention is described. Finally, in FIG. 8, a method of using game service interfaces on the gaming machine is described. In FIG. 9, a method of registering a player for a loyalty program at a gaming machine is described. In FIG. 10, a method, implemented on a player tracking server, of registering a player for loyalty program is described.

Returning to FIG. 1, an example of a player tracking system using an embodiment of the present invention is described. However, the example is presented for illustrated purposes only as the present invention is not limited to the following example. FIG. 1 is a block diagram of a number of gaming machines with player tracking units connected to servers providing player tracking services and servers providing other gaming services. In casino 150, gaming machines 90, 92, 94 and 96 are connected, via the data collection unit (DCU) 60 to the player tracking/accounting server 62. The DCU 60, which may be connected to up to 32 player tracking units as part of a local network in a particular example, consolidates the information gathered from player tracking units in gaming machines 90, 92, 94 and 96 and forwards the information to the player tracking account server 62. The player tracking account server is designed 1) to store player tracking account information, such as information regarding a player's previous game play, and 2) to calculate player tracking points based on a player's game play. The player tracking points may be used as basis for providing rewards to the player.

In gaming machine 92 of casino 150, a player tracking unit 56 and slot machine interface board (SMIB) 53 are mounted within a main cabinet 8 of the gaming machine. A top box 130 is mounted on top of the main cabinet 8 of the gaming machine. In many types of gaming machines, the player tracking unit is mounted within the top box 6. The player tracking unit 56 may also be mounted on the side of a gaming machine such as on the side of main cabinet 8. Usually, player tracking units, such as 56, and SMIBs, such as 53, are manufactured as separate units before installation into a gaming machine, such as 92.

The player tracking unit 56 includes three peripheral devices, a card reader 24, a speaker and microphone 58, and the touch screen display 16, all mounted within the unit. In some embodiments of the present invention, the peripheral devices within the player tracking unit are controlled by a processor (see FIG. 5) located within the player tracking unit. In other embodiments, one or more peripheral devices may be directly controlled by the master gaming controller 54. In yet other embodiments, the processor in the player tracking unit 56 may be used as a slave controller by the master gaming controller 54 to operate one or more peripheral devices in the player tracking unit 56. Details of player tracking units with peripheral devices operated by a master gaming controller are described in co-pending U.S. patent application Ser. No. 091838,033, filed Apr. 19, 2001, by Criss-Puskiewicz, et al, titled "Universal Player Tracking System," which is incorporated herein in its entirety and for all purposes and co-pending U.S. patent application Ser. No. 091642,192, filed Aug. 18, 2000, by LeMay, et al, titled "Gaming Machine Virtual Player Tracking Services," which is incorporated herein in its entirety and for all purposes.

The player tracking devices are used to input player tracking information that is needed to implement the player tracking program. The player tracking devices may be mounted in many different arrangements depending upon design constraints such as accessibility to the player, packaging constraints of a gaming machine and a configuration of a gaming machine. For instance, the player tracking devices may be mounted flush with a vertical surface in an upright gaming machine and may mounted flush with a horizontal surface in a table top gaming machine. The player tracking devices may also be externally mounted to the gaming machine cabinet.

In one embodiment, the player tracking unit 56 may communicate with the player tracking server 60 via the SMIB 53, a main communication board 55 and the data collection unit 60. The SMIB 53 allows the player tracking unit 56 to gather metering information from the gaming machine 92 such as an amount a player has wagered during a game play session. This information may be used by the player tracking server to calculate player tracking points for the player. In another embodiment, the master gaming controller 54 may communicate with the player tracking and accounting server via the communication board 55 and the DCU 60 to send metering information to the server 62.

The player tracking unit **56** is usually connected to the master gaming controller **54** via a serial connection using a wire serial connector and communicates with the master gaming controller **54** using a serial communication protocol. The serial connection between the SMIB **53** and the master gaming controller **54** may be through the main communication board **55** (e.g. through connections **72**), through another intermediate device or through a direct connection **70** to the master gaming controller **54. As** an example of a serial communication protocol, the master gaming controller **54** may employ a subset of the proprietary Slot Accounting System (SAS protocol) developed by International Game Technology of Reno, Nev. to communicate with the player tracking unit **56.**

In some embodiments, proprietary serial connector hardware and proprietary communication protocols may be used for communication between gaming devices within the gaming machine. For instance, Netplex, a proprietary serial communication protocol developed by International Game Technology (IGT, Reno, Nev.), may be used for communication between the peripheral devices, including the speaker/microphone **56,** the display w/touch screen **16** and the card reader **24,** and a processor on the player tracking unit **56** or communication between the master gaming controller **54** and the peripheral devices. In other embodiments, serial communication between the peripheral devices and a processor on the player tracking unit **56** or the master gaming controller **54** may be provided using non-proprietary industry standard connection hardware and standard communication protocols such as USB, IEEE 1394, Firewire, RS-232, PS/2, IrDA and the like.

In other embodiments of the present invention, serial communication between various gaming devices may be provided using wireless communication hardware and protocols or combinations of wire and wireless communication hardware and communication protocols. For example, the player tracking unit **56** may communicate with the master gaming controller **54** and a local area network connected to the player tracking and accounting server **62** using a wireless communication protocol such as Bluetooth, IrDA, IEEE 802.11a, IEEE 802.11b, IEEE 802.11x (e.g. other IEEE 802.11 standards such as IEEE 802.11c, IEEE 802.11d, IEEE 802.11e, etc.), hiperlan/2, and HomeRF. Thus, a player tracking unit, such as **56,** may be installed in gaming machines **90, 92, 94** and **96** without having to wire it to the gaming machine. In other embodiments, the master gaming controller **54** may communicate with a slave processor on the player tracking unit **56** or directly with peripheral devices such as the display with touch screen **16,** the card reader **24** and the speaker/microphone **58** using a wireless communication system compatible with wireless communication standards as Bluetooth, IrDA, IEEE 802.11a, IEEE 802.11b, IEEE 1802.11x (e.g. other IEEE 802.11 standards such as IEEE 802.11c, IEEE 802.11d, IEEE 802.11e, etc.), hiperlan/2, and HomeRF. In yet another embodiment, the peripheral devices, such as the touch screen display **16,** may communicate with a processor on the player tracking unit **56** via a wire communication system such as USB but may also communicate with the master gaming controller **54** via a wireless communication protocol such as Bluetooth, IrDA, IEEE 802.11a, IEEE 802.11b, IEEE 802.11x (e.g. other IEEE 802.11 standards such as IEEE 802.11c, IEEE 802.11d, IEEE 802.11e, etc.), hiperlan/2, and HomeRF.

Typically, when a game player wants to play a game on a gaming machine and utilize the player tracking services available through the player tracking unit, a game player inserts a player tracking card, such as a magnetic striped card, into the card reader **24.** After the magnetic striped card has been so inserted, the player tracking unit **56** may detect this event and receive certain identification information contained on the card. For example, a player's name, address, and player tracking account number encoded on the magnetic striped card, may be received by the player tracking unit **56.** In general, a player must provide identification information of some type to utilize player tracking services available on a gaming machine. For current player tracking programs, the most common approach for providing identification information is to issue a magnetic-striped card storing the necessary identification information to each player that wishes to participate in a given player tracking program. In FIGS. **3**E, **9** and **10,** a method of allowing a new player without a player tracking card to register for a player tracking program, using a "blank" magnetic striped card or other loyalty program instrument at a gaming machine is described.

After a player has inserted her or his player tracking card into the card reader **24,** the player tracking unit **56** may command the touch screen display **16** to display the game player's name on the touch screen display **16** and also, may optionally display a message requesting the game player to validate their identity by entering an identification code using a game service interface with an alpha-numeric key pad displayed on touch screen display **16.** The player may use their finger, a stylus or combinations thereof to enter their identification information using the touch screen sensor. Once the game player's identity has been validated, the player tracking information is relayed to the player tracking server **62.** Typically, the player tracking server **62** stores player tracking account records including the number of player tracking points previously accumulated by the player.

During game play on the gaming machine, the player tracking unit **56** may poll the master gaming controller **54** for game play information such as how much money the player has wagered on each game, the time when each game was initiated and the location of the gaming machine. The game play information is sent by the player tracking unit **56** to the player tracking server **62.** While a player tracking card is inserted in the card reader **24,** the player tracking server **62** may use the game play information provided by the player tracking unit **56** to generate player tracking points and add the points to a player tracking account identified by the player tracking card. The player tracking points generated by the player tracking server **62** are stored in a memory of some type on the player tracking server.

To provide additional services to a game player the player tracking unit **56** and/or the master gaming controller may communicate with other remote servers, such as the prize server **64,** a reservation server **65,** a bonus server (not shown). The servers may reside on a local area network or may reside on remote networks that are accessible to the gaming machine **90** via the Internet. Information from these remote servers may be used to provide gaming services to a player playing a game on the gaming machine **90** using the touch screen display **16** as a peripheral interface device. For example, a prize server, such as **64,** may be used to redeem a prize won by the player on the gaming machine, i.e. to have the prize shipped to the player's address. **As** another example, the reservation server **65** may be used by the player to make a dinner or entertainment reservation using the touch screen display **16.** An embodiment of a game service interface for making an entertainment reservation that may be used with the touch screen display **16** is described in more detail with respect to FIG. **3C.** An embodiment of a game service interface for redeeming a prize that may be used with

the touch screen display is described with respect to FIG. 3D. Additional details of providing prizes and prize redemption on a gaming machine are described in co-pending U.S. patent application Ser. No. 091515,717, filed Feb. 29, 2000 and entitled "Name Your Prize Game Playing Methodology," which is incorporated herein in its entirety and for all purposes.

FIGS. **2**A–2D are block diagrams of touch screens and displays for some embodiments of the present invention. In FIG. **2**A, two display screens are shown, a narrow display screen 105 and a display screen 110 with a length to height ratio of about 4 to 3. Traditionally, display screens on player tracking units have used LED's to display a single row of alphanumeric text such as a 16 character display resulting in a narrow display such as 105. A touch screen may be used with an LED display screen to eliminate a key pad on the player tracking unit. However, a color LCD display screen may be preferred over an LED screen to allow for the display of symbols as well as alphanumeric characters. In one embodiment of the present invention, a color LCD display screen with a 3.5 inch diagonal and a resolution of 320 pixels by 240 may be used with a touch screen as a touch screen display. In addition to LCD's and LED's, a touch screen may be used with a plasma display screen, a CRT display as well as with other conventional display technology.

In FIGS. 2B–2D, three embodiments of different types of touch screens, a resistive based touch screen (FIG. **2**B), a capacitive based touch screen (FIG. **2**C) and a surface acoustic wave touch screen (FIG. 2D) are described. In FIG. **2**B, an embodiment of a resistive touch screen **111** integrated with a display 110 is shown. In a resistive touch screen 111, a glass panel 120 is coated with a clear conductive material **118**. Polyester spacer dots **116** are used to separate a polyester cover sheet 112 from the glass panel 120 with the conductive material coating 118. An inner surface of the polyester cover sheet 120 in contact with the polyester spacer dots 116 is coated with a conductive metal coating **114**. An outer surface of the polyester cover sheet may be covered with a scratch resistant coating (not shown). The glass panel **120** and other layers may be integrated into a touch screen assembly that may be mounted over the display 110 using an adhesive epoxy or some other mounting means.

A touch screen controller (not shown) is used to apply a small voltage gradient across the x-axis **111** of the glass panel **120** and across y-axis **113** of the cover sheet **112** which produces a small current in the panel and the cover sheet. With a voltage applied to the glass panel 120 and cover sheet 112, the layers of the resistive touch screen may be used as a sensor. When a stylus or other implement is used to press the conductive layers, 114 and 118, together, the current flowing across the panel 120 and the cover sheet is altered. Based on the change in current, the touch screen controller determines the x and y coordinates of the stylus contact.

In FIG. **2**C, an embodiment of a capacitive touch screen 130 integrated with a display 110 is shown. In a capacitive touch screen **130**, a glass panel **136** is coated on both sides with a clear conductive material, 134 and 138. The inner conductive layer 138 may be primarily used for shielding. The outer surface of the touch screen may be a scratch resistant coating 132. Electrodes 139 are uniformly distributed around the edge of the touch screen 130 to apply a low-voltage field uniformly across the outer conductive layer 134. When a finger or a conductive stylus contacts the screen 132, a capacitive coupling occurs with voltage field which causes a small current to be drawn into the finger or the stylus. The current flow from the corners of the touch screen electrodes 139 are measured. The measured current flow is used by the touch screen controller (not shown) to determine the location of the contact on the screen.

In FIG. **2**D, an embodiment of a wave touch screen mounted to a display 110 is shown. The screen 144 is an uncoated glass panel. In one type of wave touch screen, transducers 142 in the corners produce ultrasonic waves on the glass panel. The reflectors 145 are used to create a standing wave pattern on the glass panel 144. When a soft-tipped stylus is touched to the surface of the panel 144, the transducers detect the attenuation of the wave, which may be used by a touch screen controller to determine the coordinates of the stylus. In an infrared touch screen, LED's and photoresistors on the edge of the screen are used to create a grid of infrared beams. A stylus or finger may be used to obstruct the beams and the touch screen controller determines the coordinates of the obstruction.

For most embodiments of the present invention, a capacitive based touch screen is preferred but the present invention is not limited to capacitive based touch screens. Capacitive touch screens are very clear, durable and have a high resolution. However, capacitive touch screen are generally more expensive than resistive touch screens. Further, when a finger is used as a stylus on a capacitive touch screen, a small amount of current is drawn into to the finger which some game players may find annoying. Thus, in some embodiments, other touch screen types, such as a resistive touch screen or a wave touch screen, may be employed with the present invention.

The touch screen controller processes signals from the touch screen sensor and passes touch screen event data to one or more gaming devices that utilize the touch screen event data. For instance, the x and y coordinates of a contact point on the touch screen may be used be a processor on a player tracking unit, a master gaming controller or combinations thereof, to allow a user to navigate through a game service interface (see FIGS. **3**A–**3**D) and to enter gaming information. In general, a logic device in communication with the touch screen, such as the processor on the player tracking unit or the master gaming controller, uses a device driver to receive touch screen event data from the touch screen controller. The touch screen controller may be a component separate from the touch screen assembly. The touch screen assembly includes the layers of the touch screen sensor and is mounted onto a display. In one embodiment of the present invention, the touch screen controller is integrated into the touch screen assembly.

FIGS. **3**A–**3**E are block diagram of game service interfaces for some embodiments of the present invention. In each of the figures, a single "page" of the game service interface that may be displayed on a touch screen display of the present invention is shown. However, the game service interfaces are not limited to a single page. Multiple pages may be used with each game service interface to provide a particular game service. Thus, in some embodiments, to utilize a game service interface to receive a game service, a user may be required to navigate through multiple pages.

A component layout for each game service interface is provided for illustrative purposes only and is not limited to the layout in each of the figures. Thus, layout parameters including but not limited to: 1) types of components (i.e., "buttons" and other input areas) included on each page, 2) a size of buttons on each page, 3) a shape of the button on each page (e.g. square, oval, rectangular, star-shaped, n-sided polygon, etc), 4) a color scheme for the buttons, 5) alpha-numeric text or symbols on each button and 6) back-

ground color scheme for the interface, may be varied. The input buttons may be rendered in 2-D. In some embodiments, the layout of pages for a particular game service interface may be customized according to the preferences of an individual player.

In particular embodiments, the buttons may be rendered with surface shading and textures to appear three-dimensional and may be animated. As example of an 3-D animation, when a button is touched on the touch screen, it may appear to move into the screen. Further, the symbols on the buttons may be appear to be animated in 2-D or 3-d. For instance, text on the buttons may appear to flash or move or characters and symbols on the buttons may appear to move. The characters and symbols may be selected according to a theme of a game played on the gaming machine. For instance, for a "little green man" game, an animation of a little green man taking a drink may be used to request a drink on the gaming machine.

An audio layout may also be included with each interface. For example, when a player touches a particular button on a game service interface displayed on the touch screen peripheral device or completes a particular task, a corresponding sound may be projected from an audio device located on the player tracking unit or a gaming machine. The sounds may include but are not limited to music, voice messages (e.g. "welcome" or "thank you") and noises (e.g. buzzing or beeping). In some embodiments, the audio layout may be customized according to the preferences of the user. For instance, voice message may be in a language selected by the player.

In FIG. **3**A, a metering game service interface **200** that may be displayed on a touch screen display **201** is shown. The metering game service interface allows a casino operator to view metering information on the gaming machine. After logging into to the system using metering interface **200** or another interface, the casino operator may use the hopper button **202** to obtain metering information about a hopper on the gaming machine or a printer button **204** to obtain metering information about a printer on the gaming machine that issues printed tickets that may be used to obtain gaming credits on other gaming machines or redeemed for cash. The metering information may be displayed on the display area **216.** The casino operator may use calculator buttons **208,210,212,214** to perform arithmetic operations on the metering data. For example, "back" button **208** and "enter" button **210** may be used to enter data. The arithmetic function buttons **212** and numeric buttons **214** mav be used to perform various arithmetic operations. The interface **200** may also include gaming specific function keys. For instance, the function keys **206** may allow the user to convert the metering information to different gaming machine denominations such as a nickel, quarter or dollar machine.

In FIG. **3**B, a credit game service **225** that may be displayed on the touch screen display is shown. The credit interface **225** may be used by a player to transfer credits and cash winnings to various accounts accessible to the player. For instance, a player may be able to transfer a portion of their credits or cash to a smart card, a printed ticket or a bank account using the card button **220,** the ticket button **222** or the bank button **224.** The numeric buttons **214** may be used to enter account information and PIN numbers as well as to perform arithmetic operations. The function keys **226** may be used for currency conversion such as between dollars, pounds and yen. To transfer money to bank account, the player tracking unit or the gaming machine may communicate with the bank via a network connection available to the player tracking unit or gaming machine as described with respect to FIG. **1.**

In FIG. **3**C, a reservation interface **230** that may be displayed on the touch screen display is shown. The reservation interface may be used by the player to make reservations for food and entertainment at a gaming establishment such as a casino. When the entertainment button **236** or the restaurant button **236** is pressed, different selections in each category may be displayed. When the restaurant button **236** is pressed, three restaurant selections **238** are displayed. When the info button **232** is pressed, information about the entertainment selections or restaurant selections may be displayed in display area **216.** For example, the info button **232** may be used to determine one of the restaurant selections serves "Asian Cuisine." Using the date button **242,** date selection buttons **244,** time button **246** and time selection buttons, a player may select a time and date for a reservation. Then, when the reserve button **240** is pressed, a request for a reservation may be sent to a remote reservation server **65** or another remote device as described with reference to FIG. **1.** When the reservation has been confirmed by the remote server, a confirmation message may be displayed on the reservation interface. In some embodiments, when the gaming machine includes a printer, a printed receipt with the reservation may be issued to the player.

The reservation interface **230** as well as other game service interfaces described herein may be not available to all players using the touch screen interface. For example, in some embodiments, only players with a special "status" according to criteria determined by the gaming establishment may be able to access a particular game service interface. For instance, after a certain amount of game play by the player, the player may be presented access to the reservation interface **230** to obtain a free dinner or a show as compensation (e.g. comp) for the amount of their game play.

In FIG. **3**D, a prize game service interface **225** that may be displayed on a touch screen peripheral device is shown. The prize interface may be used by the player to make redeem prizes awarded on a gaming machine. For instance, prizes may be awarded as: **1)** a "jack pot" on a gaming machine, 2) based upon game play history that is tracked as part of a loyalty program or 3) part of a promotion at the gaming establishment. The prize buttons **258** may be pressed to select one of the prizes. When the info button **232** is pressed, information about the prize selection may be displayed in display area **216.** Using the credits button **252,** voints button **254** and EFT (electronic funds transfer) button. a player may used a combination of credits available on the gaming machine, loyalty points and cash from a bank account to redeem a particular prize. The player may use an additional page of the prize redemption interface **250** to enter additional information such as a shipping address.

In FIG. **3**E, a loyalty program registration interface **260** that may be displayed on a touch screen peripheral device is shown of the present invention. Using the loyalty program registration interface **260,** a player that is not a member of a loyalty program, such as player tracking program, may use the interface **260** to join the program at the gaming machine as part of a "point of play" registration. In one embodiment, the player may obtain a "blank" magnetic striped card or another type of loyalty program instrument excepted by the card reader on the gaming machine such as a smart card. Next at the gaming machine, the player may request a "point of play" registration on the gaming machine from a menu of game services available on the gaming machine. A "point of play" registration on the gaming machine may be initiated before game play session has begun on the gaming machine

(e.g. the player registers and then plays one or more games on the gaming machine), during a game play session on the gaming machine (e.g. game play by the player occurs prior to the registration and after the registration) and at the end of a game play session (e.g. the player registers but does not continue to play).

After the "point of play" registration has been initiated on the gaming machine, a logic device on the player tracking unit or the gaming machine may instruct the player to insert the "blank" magnetic striped card into the card reader and display the loyalty program registration interface **260** on the touch screen display. Using a finger or stylus, a player may enter their name, address and other identification information required for registration. Different combinations of registration information may be used and are not limited to a name and address. The required identification information may be entered using the numeric input buttons **214** and the alphabetic input buttons **266.** The required information may be input in different languages and is not limited to English or other Romance languages. Thus, the input buttons **266** may be adapted for languages using alphabets other than a Roman alphabet.

In some embodiments, the touch screen display may be used with hand writing recognition software located on a logic device on the player tracking unit, player tracking server or the gaming machine to allow a player to write information on the display screen, such as their name and address, as a means of inputting this information. The "written" information may be converted to text by the hand-writing recognition software and stored electronically. For example, a player name, "JOE" **264** is written in a writing template area **262.** The name may be recognized using hand-writing recognition software and converted to text. The required registration information may be written in languages other than English and using an alphabet different than the Roman alphabet such as a Kanji alphabet which is used in Japan.

In addition, the player may sign their name in the writing template area **262.** The player's signature may be recorded and stored so that it may be later used for identification purposes. For example, prior to the initiation of a player tracking session or another game service, a signature recorded from the writing template area **262** may be compared with a stored signature using comparison software. When the signatures compare, the player tracking session or other game service is allowed to proceed. When the signatures do not compare, the player tracking session or game service may be terminated or additional identification information may be required from the player before the player tracking session is allowed. Alphabetic input buttons and writing template areas with hand writing recognition and feature recognition software are not limited to the loyalty program registration interface **260** and may be used with any of the other game service interfaces of the present invention.

Besides a signature, other biometric information may be recorded from the player as part of the registration process. For instance, a camera may be used to record a picture of player's face or perform a retinal scan of a player's retina. As another example, a finger print reader may be used to record a player's finger print. Amicrophone may be used to record a player's voice. In one embodiment, the biometric information may be used for auditing purposes to identify that a player has actually registered. In another embodiment, the biometric information entered during the registration process may be used to validate a player's identity to initiate a loyalty program session. For instance, a recorded player's finger print may be used to validate the player's identity when they initiate a loyalty program session using a loyalty program instrument. The biometric input devices used in the registration process, such as a camera, finger print reader, a microphone may be located on a player tracking unit, a gaming machine, a casino kiosk or any other gaming device used to register a player.

After the player has entered the required information using the game service interface, the player may touch the register button **268** and a registration request message is sent to the player tracking service. The registration request message contains at least the identification information entered by the player and identification information from the loyalty point instrument used in the registration process such as a serial number recorded from the magnetic striped card or other identification information recorded on the loyalty point instrument. The registration request message may be generated by a logic device located in the player tracking unit or in the gaming machine such as the master gaming controller. After receiving a confirmation of the registration from the player tracking server, any additional game play on the gaming machine by the player may be recorded on the gaming machine and sent to the player tracking server as part of a player tracking session. In one embodiment, the gaming machine may issue a printed receipt to the player to confirm the registration process.

After registration, the magnetic striped card, or other loyalty point instrument used in the registration process, may be used by the player to initiate a player tracking session on other gaming machines or participate in other loyalty program activities available to the player through the loyal program using the magnetic striped card. Additional details of the point of play registration method of the present invention are described with respect to FIGS. **9** and **10.**

The "point of play" registration method, described above, is not limited to touch screen displays located on a player tracking unit. The method may be implemented on a touch screen display used as the main display on the gaming machine or as a secondary display on the gaming machine. In addition, the method may be implemented on a touch screen display located on a casino kiosk. The casino kiosk may include a card reader and baskets containing blank magnetic striped cards or other gaming devices used as a loyalty program instruments. For instance, a smart card or a room key may be used as loyalty program instruments. At the kiosk, the player may use the blank magnetic striped cards and the touch screen display interface to register for a loyalty program such as a player tracking program as described above with respect to the gaming machine.

The "point of play" registration may also be implemented using many different input mechanisms or combinations of input mechanisms to enter a required set of registration information for a loyalty program. The input mechanisms may be located on a gaming machine or other gaming devices (e.g. casino kiosks and hand-held wireless devices) used to perform a "point of play" registration. For instance, a user may enter some of the registration information using a microphone and voice recognition software. In another examples, a user may enter registration information using alpha-numeric characters displayed on a display screen and a selection mechanism on the gaming machine to select the characters on the display screen. The selection mechanism may be one or more of the following but is not limited to input buttons, a joystick, a track-ball and a mouse.

In yet another embodiment of the present invention, the point of play registration may be initiated by a casino service representative. When a player is playing a game on the

gaming machine and has not initiated a player tracking session, a light, the touch screen display (e.g., change color) or some other interface device (see FIGS. **4**A and 4B) on the player tracking unit may indicate that the player may be a valuable to the casino as a member of their loyalty program such as their player tracking program. For example, when the player has bet an amount of money over some amount of time determined by the casino, the light on the player tracking unit may be activated. A passing casino service representative may notice the light and inquire whether the player would like to enroll in a player tracking program. The casino service representative enter the player's registration information on touch screen display located on a hand-held wireless device carried by the casino service representative and obtain card information from a card reader attached to the hand-held device. The hand-held wireless device may communicate with player tracking unit using a wireless communication standard such as but not limited to Bluetooth, IrDA (Infrared Direct Access), IEEE 802.11a, IEEE 802.11b. IEEE 802.11x, hiperlan/2. and HomeRF After entering the required information, a registration request message may be sent through a wire interface or a wireless interface on the player tracking unit to the player tracking server (see FIGS. **4**B), through a wireless interface on the gaming machine to the player tracking server or directly to the player tracking server from the hand held-device. After receiving a registration confirmation from the player tracking server, the player may be presented with an activated player tracking card which may be used to initiate a player tracking session on the gaming machine. An example of hand-held wireless device that may be used to provide the "point of play" player tracking registration is described in co-pending U.S. application Ser. No. 091544, 844, by Rowe, filed Apr. 7, 2000, tilted "Wireless Gaming Environment," which is incorporated herein in its entirety and for all purposes.

IrDA is a standard for devices to communicate using infrared light pulses. A hand-held device, such as a PDA (personal digital assistant) may communicate with the player tracking unit and the gaming machine using infrared light pulses using the IrDA communication standard or some other infrared communication standard. Generally, infrared communication using IrDA requires line of sight communications.

The game service interfaces described above have been presented for illustrative purposes only as many other types of game service interfaces may be used with the touch screen displays of the present invention. For example, game service interfaces may be used that allow a player to specify various game playing preferences. Additional details of these interfaces, which may be used in the present invention, are described in co-pending U.S. patent application Ser. No. 091819,152, by Paulsen, filed Mar. 27, 2001, titled "Interactive Game Playing Preferences", which is incorporated herein in its entirety and for all purposes. As another example, a player may use the touch screen display and a game service interface to select different entertainment content sources, such as video programs, audio programs and Internet based services. The display screen may be used to display entertainment content such as a movie, a sporting event, advertising and other promotions. For Internet based services, the display with a touch screen may be used to operate a web-browser and other web-based applications. A few examples of entertainment content sources and interfaces, including Internet-based entertainment content sources, that may be provided with the touch screen display of the present invention are described in co-pending U.S. patent application Ser. No. 091665,526, by Nelson, et al, filed on Sep. 9, 2000, and titled "Play Per View," which is incorporated herein in its entirety and for all purposes. In yet another example, a player may use a game service interface to select promotions available to the player and receive a printed coupon used to obtain the promotion.

FIGS. 4A and 4B are perspective diagrams of different embodiments of player tracking units of the present invention. FIG. 4A is a front diagram for a housing or chassis **300** enclosing a number of interface peripherals. The interface peripherals may be used to provide input and output (I/O) to a player tracking system or may be used to provide I/O to other gaming systems such as a gaming machine. The device housing **300** may enclose a logic device (see FIG. **5)** and other electronics configured to execute player tracking functions or the logic device may be enclosed in a logic device housing separate from the device housing **300.**

Using the player tracking interface devices enclosed in the housing **300,** gaming information, such as player tracking information, may be input to the player tracking unit and gaming information may be visually and aurally communicated to various individuals that may use the player tracking unit, such as game players, casino service representatives and maintenance technicians. The device housing **300** encloses a touch screen display **315,** a key pad **320,** a speaker/microphone **56,** a card reader **325,** a light **311** adjacent to the card reader **325** and a light **316** adjacent to the touch screen display **315.** In other embodiments, the housing **300** may enclose many different combinations of player tracking interface devices. For instance, additional gaming devices, such as biometric input devices (e.g., cameras, retinal scanners, finger print readers), wireless interface devices cameras and bonus buttons, may also be enclosed in the device housing (see FIG. 4B). In one embodiment, face plate **330** surrounds the display **315,** the key pad **320,** the card reader **325,** the light **316,** the light **311** and the speaker **56.** The face plate **330** may include mounting holes, such as **312,** for mounting various player tracking interface devices to the face plate **330** such as the touch screen display **315.**

The face plate **330** includes cut-outs (not shown) that may allow access to the player tracking interface devices. For instance, a front portion of the light **316,** a front portion of the touch screen display **315,** and a front portion of the key pad are visible through the face plate **330.** Each of the key pad buttons, such as **321,322** and **323,** may be back-lit by illumination devices of some type. The illumination devices, behind the key pad buttons, may be independently controlled to display various light and color patterns. The light and color patterns may be used to represent game information.

The dimensions of the device housing **300,** (e.g. **305,308** and **310)** are shown in FIGS. **2**A and **2C.** The device housing **300** is shown as a rectangular box for illustrative purposes only. A shape of the device housing **300** is variable and is not strictly limited to rectangular shapes. Further, dimensions of the cut-outs on the face plate **330** for the player tracking interface devices may vary depending the manufacturer of a particular interface peripheral device which may be used as a player tracking device. Typically, the dimensions of player tracking interface devices vary from manufacturer to manufacturer.

The light **316,** adjacent to the touch screen display **315** may use one or more illumination devices. Further, the light **316** may employ one or more types of lighting systems such as light emitting diodes (LED's), neon bulbs, incandescent

bulbs, halogen bulbs, florescent bulbs, electro-luminescent lighting elements or combination thereof. In a particular embodiment, the LED's may be multi-colored LED's. The light may extend substantially surround the touch screen display 315 or the light may extend around a portion of the perimeter of the touch screen display. Illumination devices within light 316 may be used to indicate different types of gaming information. For instance, the light 316 may be used to indicate a player has inserted their card incorrectly into the card reader **325**. The light **316** may be activated to signal a passing casino service representative to initiate a "point of play registration," as described with reference to FIG. 3E.

The touch screen display 315 may be an LED, LCD, vacuum florescent, plasma display screen or any other type of display technology. The touch screen display 315 may employ one of the touch screen sensors, preferably but not limited to a capacitive sensor, with a touch screen controller integrated into the touch screen assembly as described with reference to FIGS. 2A–2D. The touch screen display 315 may be used to display additional symbols or gaming information that may be used to enhance player tracking services and other related gaming services. For instance, a drink button 322 is used on the key pad 320 for a player to request a drink. Additional drink symbols or text names may be displayed on the touch screen display 315 to allow a player to select a particular type of drink.

Portions of the touch screen display 315 may be used to convey gaming information in a manner similar to the illumination devices. For instance, one or more portions the touch screen display 315, such as a rectangular border around the perimeter of the touch screen display, may flash with various color patterns and symbols as part of an attract mode. Further, one or more portions of the touch screen display may be used to signal machine events. For example, when a player tracking card is inserted correctly in the card reader 325, a portion or all of the touch screen display 315 may light up as green. When a player tracking card is inserted incorrectly in the card reader 325, a portion of the display may light up and flash red. **As** another example, when a machine malfunction has occurred, a portion of the touch screen display or all of the touch screen display 315 may light up in red. Details of other gaming information (e.g., machine events) which may be provided by illumination devices that may be also may be used with a touch screen display are described in co-pending U.S. application Ser. No. 091921489, by Hedrick, et al., filed on Aug. 3, 2001, entitled "Player Tracking Communication Means in a Gaming Machine," which is incorporated herein in its entirety and for all purposes.

FIG. 4B is a front diagram for a housing or chassis 300 enclosing a number of interface peripherals which may be used as player tracking interface devices, for one embodiment of the present invention. The front plate 330 is covered with a decorative skin 365 with a silk-screen logo 366. In addition to the peripheral interface devices described with respect to FIG. **4A**, the player tracking housing **300** includes a wireless interface 364, a camera 362 and a finger-print reader with platen 360. The wireless interface 364 may be compatible with one or more wireless communication standards including but not limited to Bluetooth, IrDA, IEEE 802.11a, IEEE 802.11b, IEEE 802.11x, hiperlan/2, and HomeRF.

In one embodiment, the touch screen display 315 is a color LCD. The touch screen display 315 may be used to implement a game service interface as described with respect to FIGS. 3A–3E. In addition, the touch screen display 315 is used to replace the key pad 320. More specifically, the touch screen display may be used as an interface by a player to: 1) input player tracking identification information, 2) view account information and perform account transactions for accounts such as player tracking accounts and bank accounts, 3) receive operating instructions related to the player tracking unit and the gaming machine, 4) redeem prizes or comps including using player tracking points to redeem the prize or comp (see FIG. **3**D), 5) make entertainment service reservations (see FIG. **3**C), 6) transfer credits to cashless instruments and other player accounts (see FIG. **3**B), 7) participate in casino promotions, 8) select entertainment choices for output via video and audio output mechanisms on the player tracking unit and the gaming machine, 9) play games and bonus games, 10) request gaming services such as a drink orders, 11) communicate with other players or casino service personnel, 12) play progressive games, 13) register a player for a loyalty program such as a player tracking club (see FIG. **3**E), 14) perform banking transactions and 15) obtain machine diagnostics. In addition, the touch screen display 315 may be used as an interface by casino service personnel to: a) access diagnostic menus, b) display player tracking unit status information and gaming machine status information, c) access gaming machine metering information (see FIG. 3A) and d) display player status information.

The camera 362 may be used for security purposes, promotional purposes and to enter biometric information. For instance, the camera 362 may deter tampering with a player tracking unit or gaming machine. As another example, a picture of a player may be recorded when they win a jackpot and used for a promotion. As another example, the camera may be used with feature recognition software to identify the player. Similarly, the finger-print reader 360 may be used to read a player's fingerprint which is used to determine their identity. **As** another example, the microphone 56 may be used with voice recognition software to recognize a player's voice for player authentication purposes. Thus, a voice signal input into the microphone may be compared with a stored voice print to identify the player. In some embodiments, biometric input devices may be used to supplement information read from a card inserted in the card reader or to even replace the card reader 325.

Biometric information input using the camera 362, finger-print reader 360 or microphone may also be used as part of the "point of play" registration method. For instance, when a player attempts to register for a loyalty program such as a player tracking program at the gaming machine, a picture of the player or a retinal scan may be taken by the camera or a finger print may be recorded using the finger print reader 360. The information maybe used for future identification of the player or for security purposes.

The wireless interface 364 may be used to communicate with a portable wireless device worn or carried by a player, a casino service representative or maintenance technician. For example, rather than inserting a card into the card reader 325, a player may wear or simply carry a wireless communication device that may be about the size of a player tracking card. When the player is near the machine, a wireless interface device **364** and the wireless device worn by the player may automatically detect each other and establish communications. The communication connection allows gaming information to be transferred between the wireless devices. **As** another example, the wireless interface 364 may be used to communicate with a wireless device carried by a casino service representative such as a hand-held device used for a "point of play" registration of a game player at the gaming machine.

The wireless interface device 364 may use a wireless communication standard such as Bluetooth™ to communicate with portable wireless devices using this standard. The Bluetooth communicates on a frequency of 2.45 Gigahertz. Typically, Bluetooth devices send out signals in the range of 1 milliwatt. The signal strength limits the range of the devices to about 10 meters and also limits potential interference sources. Interference is also limited by using spread-spectrum frequency hopping. For instance, a device may use 79 or more randomly chosen frequencies within a designated range that change on a regular basis up to 1,600 times a second. Thus, even if interference occurs, it is likely only to occur for a short period of time.

When Bluetooth-capable devices come within range of one another, an electronic conversation takes place to determine whether they have data share or whether one needs to control the other. The connection process is performed automatically. Once a conversation between the devices has occurred, the devices form a network. Bluetooth systems create a Personal-Area Networks (PAN) or "piconets". While the two or more devices in a piconet remain in range of one another, the distances between the communications devices may vary as the wireless devices are moved about. Once a piconet is established, such as between the wireless interface device 364 and a portable wireless device, the members of the piconet randomly hop frequencies in unison so they remain in touch with another and avoid other piconets that may be operating in proximity to the established piconet. When Bluetooth is applied in a casino environment, many such piconets may be operating simultaneously. Details of the Bluetooth™ standard and the Bluetooth™ special interest group may be found at www-.bluetooth.com. Other wireless standards that may be used with the present invention include but are not limited to IrDA, IEEE 802.11a, IEEE 802.11b, IEEE 802.11x (e.g. other IEEE 802.11 standards such as IEEE 802.11c, IEEE 802.11d, IEEE 802.11e, etc.), hiperlan/2, and HomeRF.

In another embodiment of the present invention, the microphone and speaker 56 may be used to input gaming information and aurally communicate gaming information. For instance, the microphone 56 may be used with voice recognition software executed by: a) a logic device on the player tracking unit or b) a master gaming controller in a gaming machine, may be used recognize verbal requests for gaming services. For instance, the player may request a drink by saying "order me a drink" into the microphone.

The speaker 56 may be used to aurally communicate gaming information to the player or someone else using the gaming machine. For instance, when a card has been inserted incorrectly in the card reader 325. A message, such as "card not inserted correctly," may be projected from the speaker. Simultaneously, although not required, the light 316 may flash red to draw the player's attention. **As** another example, as part of a "point of play" registration, a player may be able to speak their name, address and other required information into the microphone 56. The voice information from the player may be used to request a player tracking program registration from a player tracking server as described with respect to FIGS. 3E. The voice recognition software may be used in combination with the touch screen display. For example, information entered by the player from speaking may be converted to text and then may be displayed on the touch screen display 315. A game service interface on the touch screen display 315 may be used to correct errors in text converted from a player's voice input.

Voice messages from the speaker 56 may be projected in different languages. For example, for a Japanese speaking game player messages may be in Japanese, for a Spanish speaking game player the messages may be in Spanish while for an English speaking player the messages may be in English. The language preferred by the player may be stored as player tracking information on a player tracking card or the player may be able to specify their language using one of the input devices on the player tracking unit. The player tracking information on the player tracking card may be based on a user profile previously established by the player which may be used to select the language used by the player.

FIG. 5 is a block diagram of an embodiment of a player tracking unit 300 of the present invention connected to a master gaming controller 54 (see FIG. 1) on a gaming machine and a player tracking server 62. The player tracking unit 300 includes a logic device 410 and a number of player tracking interface devices 411 including a card reader 325, a display 315, a touch screen 416, a light panel 316, a speakerlmicrophone 56, a wireless interface and other player tracking interface devices 456.

The logic device 410 may include a processor for executing software allowing the player tracking unit to perform various player tracking functions such as communicating with the player tracking server 62, communicating with the master gaming controller 54 or operating the various peripheral devices such as the card reader 325, the display 315, the touch screen and the light panel 316. For instance, the logic device 410 may send messages containing player tracking information or game service interfaces to the display 315 and may receive input invents from the touch screen 416. **As** another example, the logic device 410 may send commands to the light panel 316 to display a particular light pattern and to the speakerlmicrophone 56 to project a sound to visually and aurally convey game information. The logic device 410 may utilize a microprocessor and/or microcontrollers. For instance, the light panel 316 may include a microcontroller that converts signals from the processor 402 to voltage levels for one or more illumination devices. In one embodiment, application software for the player tracking unit 300 and configuration information for the player tracking unit may be stored in a memory device such as an EPROM 408, a non-volatile memory, hard drive or a flash memory.

The player tracking unit may include a memory 416 configured to store: 1) player tracking software 414 such as data collection software, 2) player tracking communication protocols (e.g. 420) allowing the player tracking unit 300 to communicate with different types of player tracking servers, 3) device drivers for many types of player tracking interface devices (e.g. to communicate with the touch screen controller), 4) voice recognition software for receiving voice commands from the microphone **56**, 5) software for displaying different game service interfaces, 6) software for generating a "point of play" registration request and 7) industry standard communication protocols (e.g. 440) such as TCP/IP, USB, Firewire, IEEE1394, IrDA or Bluetooth allowing the player tracking unit to communicate with devices using these protocols and proprietary communication standards such as Netplex and SAS (IGT, Reno, Nev.) allowing the player tracking unit to communicate with devices using these protocols. Typically, the master gaming controller, such as 54, communicates using a serial communication protocol. A few examples of serial communication protocols that may be used to communicate with the master gaming controller include but are not limited to USB, RS-232 and Netplex (a proprietary protocol developed by IGT, Reno, Nev.).

Aplurality of device drivers may be stored in memory 316 for each type of player tracking device. For example, device

drivers for five different types of card readers, six different types of displays and eight different types of touch screens may be stored in the memory **416**. When one type of a particular peripheral device is exchanged for another type of the particular device, a new device driver may be loaded from the memory **416** by the processor **402** to allow communication with the device. For instance, one type of card reader in the player tracking unit **300** maybe replaced with a second type of card reader where device drivers for both card readers are stored in the memory **416.**

In some embodiments, the software units stored in the memory **416** may be upgraded as needed. For instance, when the memory **416** is a hard drive, new device drivers or new communication protocols may be uploaded to the memory from the master gaming controller **54,** the player tracking server **62** or from some other external device. **As** another example, when the memory **416** is a CD/DVD drive containing a CD/DVD designed or configured to store the player tracking software **414,** the device drivers and other communication protocols, the software stored in the memory may be upgraded by replacing a first CD/DVD with a second CD/DVD. In yet another example, when the memory **416** uses one or more flash memory units designed or configured to store the player tracking software **414,** the device drivers and other communication protocols, the software stored in the flash memory units may be upgraded by replacing one or more flash memory units with new flash memory units storing the upgraded software.

A minimal set of player tracking software applications **414,** communication protocols **440,** player tracking communication protocols and device drivers may be stored on in the memory **416**. For instance, an operating system, a communication protocol allowing the player tracking unit **300** to communicate with a remote server such as the player tracking server **62** and one or more common player tracking applications may be stored in memory **416.** When the player tracking unit is powered-up, the player tracking unit **300** may contact a remote server **62** and download specific player tracking software from the remote software. The downloaded software may include but is not limited to one or more particular player tracking applications that are supported by the remote server, particular device drivers, player tracking software upgrades, and a particular communication protocol supported by the remote server. Details of this method are described in co-pending U.S. application Ser. No. 09/838,033, filed on Mar. 19, 2001, by Criss-Puskiewicz, et al., entitled, "UNIVERSAL PLAYER TRACKING SYSTEM," which is incorporated herein in its entirety and all for purposes

In some embodiments, the player tracking functions may be implemented by both the logic device **410** and the master gaming controller **54.** For instance, the master gaming controller may execute voice recognition software to interpret voice commands input from the microphone **56**. As another example, the master gaming controller **54** may execute software for displaying game service interfaces on the display **315** and may receive touch screen events from the touch screen **416.** For example, the master gaming controller may execute software for a game service interface allowing a "point of play" registration for a player tracking program. Thus, player tracking software such as the player tracking protocols may be stored on a memory located on the gaming machine which is separate from the player tracking unit. In some embodiments, the player tracking software stored on the memory on the gaming machine may be executed by the master gaming controller **54** on the gaming machine. In other embodiments, the player tracking software stored on the memory on the gaming machine may be executed by the logic device **410** on the player tracking unit.

The logic device **410** includes a network interface board **406** configured or designed to allow communication between the player tracking unit **300** and other remote devices such as the player tracking server residing on local area networks, such as a casino area network, a personal area network such as a piconet (e.g. using Bluetooth), or a wide area network such as the Internet. The network interface board **406** may allow wireless or wired communication with the remote devices. The network interface board may be connected to a firewall **412**. The firewall may be hardware, software or combinations of both that prevent illegal access of the gaming machine by an outside entity connected to the gaming machine. The internal firewall is designed to prevent someone such as a hacker from gaining illegal access to the player tracking unit or gaming machine and tampering with it in some manner. For instance, an illegal access may be an attempt to plant a program in the player tracking unit that alters the operation of the gaming machine allowing it to perform an unintended function.

The communication board **404** may be configured to allow communication between the logic device **410** and the player tracking interface devices including **325, 315, 416, 316, 56** and **456** and to allow communication between the logic device **410** and the master gaming controller **54.** Additional details of communication between the processor **402,** display **315** and touch screen **416** are described with reference to FIG. **6.** The wireless interface **364** may be used to allow the player tracking unit and possibly the master gaming controller **54** to communicate with portable wireless devices or stationary devices using a wireless communication standard. The wireless interface **364** may be connected to an antenna **357.** In some embodiments, the wireless interface **364** may be incorporated into the communication board **404**. In addition, in some embodiments, the logic device **410** and the master gaming controller **54** may communicate using a non-proprietary standard wireless communication protocol such as Bluetooth, IrDA, IEEE 802.11a, IEEE 802.11b, IEEE 802.11x (e.g. other IEEE 802.11 standards such as IEEE 802.11c, IEEE 802.11d, IEEE 802.11e, etc.), hiperlan/2, and HomeRF, or using a non-proprietary standard wired communication protocol such as USB, Firewire, IEEE 1394 and the like. In other embodiments, the logic device **410** and the master gaming controller may communicate using a proprietary communication protocol used by the manufacturer of the gaming machine such as Netplex.

The communication between the player tracking unit **400** and 1) the player tracking interface devices **411,** 2) the master gaming controller **54,** 3) the player tracking server **62** and 4) any other external or internal gaming devices may be encrypted. In one embodiment, the logic device **410** may poll the player tracking interface devices for information. For instance, the logic device **410** may poll the card reader **325** to determine when a card has been inserted into the card reader or may poll the touch screen **416** to determine when the touch screen has been touched. When polled, the touch screen may send the coordinate location of a touch location on the touch screen sensor. In some embodiments, the player tracking interface devices **411** may contact the logic device **410** when a player tracking event such as a card being inserted into the card reader or the touch screen **416** being touched has occurred.

The logic device **410,** using an appropriate device driver, may send instructions to the various player tracking interface devices to perform specific operations. For instance,

after a card has been inserted into the card reader **325,** the processor logic device may send a "read card" instruction to the card reader, "display game service interface A" instructions to the display **315** and a "good luck" voice message to speaker **54.** In addition, the logic device **410** may be configured to allow the master gaming controller **54** to send instructions to the player tracking interface devices via the logic device **410.** As an example, after a card has been inserted into the card reader **325,** the processor logic **410** may determine that the card is for a gaming application controlled by the master gaming controller **54** and send a message to the master gaming controller **54** indicating a card has been inserted into the card reader. For instance, when a player has requested a "point of play registration," a registration interface may be displayed on the main display with a touch screen on the gaming machine rather than on a touch screen display on the player tracking unit. In response, to the message from the logic device, the master gaming controller **54** may send a series of commands to the player tracking interface devices such as a "read card" instruction to the card reader **325,** a flash light pattern "A" command to the light panel **316,** and a "display message" instruction to the display **315** via the logic device **410.** The instructions from the master gaming controller **54** to the player tracking interface devices may be obtained from gaming application software executed by the master gaming controller **54.** The gaming application software may or may not be related to player tracking services.

The player tracking unit **300** may include one or more standard peripheral communication connections (not shown). The logic device **410** may be designed or configured to communicate with the master gaming controller **54** and the player tracking interface devices using a standard peripheral connection, such as an USB connector, and using a standard communication protocol, such as USB. Details of using a standard peripheral communication connection are described in co-pending U.S. patent application Ser. No. 09/414,659, filed Oct. 6, 1999, by LeMay, et al., entitled, "STANDARD PERIPHERAL COMMUNICATION," which is incorporated herein in its entirety and for all purposes.

In one embodiment, the peripheral devices **411** on the player tracking unit such as the display **315** and the touch screen **416** may communicate using both wired and wireless communications. For instance, the processor **402** may communicate with the touch screen **416** via a USB connector and using a USB communication protocol. However, the master gaming controller **54** may communicate directly with the touch screen **416** or may communicate with the touch screen **416** through the communication board **404** using a wireless communication protocol such as Bluetooth, IrDA, IEEE 802.11a, IEEE 802.11b, IEEE 802.11x (e.g. other IEEE 802.11 standards such as IEEE 802.11c, IEEE 802.11d, IEEE 802.11e, etc.), hiperlan/2, and HomeRF.

FIG. **6** is a block diagram of processor board with a touch screen display in a player tracking unit for one embodiment of the present invention. The player tracking unit communicates with a display **514** and touch screen **516** using a PC-like architecture. The player tracking CPU **402** communicates with memory control chip set **502** and RAM **504** via the local micro-processor bus. A bus interface unit **506** provides an interface between the microprocessor bus and a PCI bus **512** and provides an interface between the microprocessor bus and an ISA bus **522.** An Ethernet interface **508** is located on the PCI bus **512.** The Ethernet interface allows communication with a local area network (LAN) at 101100 MB communication rates. The processor **402** may communicate with a player tracking server and other gaming devices located on the LAN via the Ethernet interface **508.**

A display controller **510** for the touch screen display **514** is also located on PCI bus **512**. The display controller interprets instructions from the processor **402** that allow video content such as game service interfaces, video streaming, games, bonus games, video conferencing, advertising, movies, television programs and web-browsers to be displayed on the display **514.** The touch screen controller **518,** which is integrated into the touch screen assembly, operates the touch screen sensor, such as by applying a voltage, and interprets touch screen inputs. For example, for a capacitive touch screen sensor, a voltage change in the sensor as the result of a touch may be converted to x and y coordinates or pixel locations by the touch screen controller **518.** The touch screen controller sends touch screen event data to an I/O controller **520** via a serial connection **522.** The serial connection between the touch screen controller **18** and the I/O controller may be a wire connection that employs USB, RS232, PS/2, Firewire or IEEE1394 or a wireless connection that employs wireless connection standard such as Bluetooth, IrDA, IEEE 802.11a, IEEE 802.11b, IEEE 802.11x (e.g. other IEEE 802.11 standards such as IEEE 802.11c, IEEE 802.11d, IEEE 802.11e, etc.), hiperlan/2, and HomeRF.

The I/O controller **520** sends touch screen events received from the touch screen controller to the bus interface unit **506** via the ISA bus **522** and on to the processor **402.** A legacy network interface may be connected to the ISA Bus **522.** The legacy network interface allows the processor to communicate with gaming devices connected to the player tracking unit using legacy communication protocols such as fiber optic, current loop (IGT proprietary standard) and RS-485.

Turning to FIG. 7, more details of using a player tracking system in the context of game play on a gaming machine are described. In FIG. **7,** a video gaming machine **2** of the present invention is shown. Machine **2** includes a main cabinet **4,** which generally surrounds the machine interior (not shown) and is viewable by users. The main cabinet includes a main door **8** on the front of the machine, which opens to provide access to the interior of the machine. Attached to the main door are player-input switches or buttons **32,** a coin acceptor **28,** and a bill validator **30,** a coin tray **38,** and a belly glass **40.** Viewable through the main door is a video display monitor **34** and an information panel **36.** The display monitor **34** will typically be a cathode ray tube, high resolution flat-panel LCD, or other conventional electronically controlled video monitor. A touch screen may be mounted over the display monitor **34** and game service interfaces may be displayed on the touch screen monitor. The information panel **36** may be a back-lit, silk screened glass panel with lettering to indicate general game information including, for example, the number of coins played. The bill validator **30,** player-input switches **32,** video display monitor **34,** and information panel are devices used to play a game on the game machine **2.** The devices are controlled by circuitry (see FIG. **1)** housed inside the main cabinet **4** of the machine **2.** Many possible games, including traditional slot games, video slot games, video poker, video black jack, video keno, video pachinko, lottery games and other games of chance as well as bonus games may be provided with gaming machines of this invention.

The gaming machine **2** includes a top box **6,** which sits on top of the main cabinet **4.** The top box **6** houses a number of devices, which may be used to add features to a game being played on the gaming machine **2,** including speakers **10, 12, 14,** a ticket printer **18** which may print bar-coded tickets **20**

used as cashless instruments. A secondary display **44,** which may also include a touch screen, is mounted in the top box. The secondary display **44** may also be used to operate game service interfaces.

The player tracking unit mounted within the top box **6** includes a touch screen display **22** for entering player tracking information, displaying player tracking information and displaying game service interfaces. The player tracking unit also includes a card reader **24** for entering a magnetic striped card containing player tracking information and a speaker/microphone **42** for projecting sounds and inputting voice data. In addition, the player tracking unit may include additional peripheral interface devices such as biometric input devices as described with respect to FIGS. **4**A and **4B.**

Understand that gaming machine **2** is but one example from a wide range of gaming machine designs on which the present invention may be implemented. For example, not all suitable gaming machines have top boxes or player tracking features. Further, some gaming machines have two or more game displays—mechanical and/or video. And, some gaming machines are designed for bar tables and have displays that face upwards. Still further, some machines may be designed entirely for cashless systems. Such machines may not include such features as bill validators, coin acceptors and coin trays. Instead, they may have only ticket readers, card readers and ticket dispensers. **As** another example, a game may be generated in on a host computer and may be displayed on a remote terminal or a remote computer. The remote computer may be connected to the host computer via a network of some type such as the Internet. Those of skill in the art will understand that the present invention, as described below, can be deployed on most any gaming machine now available or hereafter developed.

Returning to the example of FIG. **4,** when a user wishes to play the gaming machine **2,** he or she inserts cash through the coin acceptor **28** or bill validator **30.** In addition, the player may use a cashless instrument of some type to register credits on the gaming machine **2**. For example, the bill validator **30** may accept a printed ticket voucher, including **20**, as an indicia of credit. As another example, the card reader **24** may accept a debit card or a smart card containing cash or credit information that may be used to register credits on the gaming machine.

Prior to beginning a game play session on the gaming machine **2,** a player may insert a player tracking card into the card reader **24** to initiate a player tracking session. In some embodiments, after inserting their card, the player may be visually prompted on the display screen **22** or aurally prompted using the speaker to enter identification information such as a PIN code using the touch screen display **22.** Typically, the player tracking card may remain in the card reader **24** during the game play session. **As** another example, the gaming machine may transfer player tracking information from portable wireless device worn by the player via a wireless interface device (not shown) on the gaming machine **2.** An advantage of using a portable wireless device is that the transfer of player tracking information is automatic and the player does not have to remember to correctly insert a player tracking card into the gaming machine.

In a player tracking session on the gaming machine, features of the player's game play during a game play session on the gaming machine, such as an amount wagered during the game play session, may be converted to player tracking points and stored in the player's player tracking account on a player tracking server. Later, accumulated player tracking points may be redeemed for rewards or for "comps" for the player such as free meals or free rooms. Usually, the player tracking card inserted into the card reader contains at least player tracking account information. When the card is inserted correctly into the card reader **24,** the information stored on the card, such as the player's account information, may be read by the card reader and transferred by a logic device on the player tracking unit (see FIG. **5)** to the player tracking server. The player tracking account information allows the player tracking server to store player tracking points accumulated during the game play session to the appropriate account. When player tracking information is not provided by the player, for instance, when the player tracking card has been inserted incorrectly into the card reader **24** or the player is not a member of a player tracking program, player tracking points are not accumulated. However, using the methods described with respect to FIGS. **3**E, **9** and **10,** when a player is not a member of the player tracking program, the player may register at the gaming machine.

During the course of a game, a player may be required to make a number of decisions, which affect the outcome of the game. For example, a player may vary his or her wager on a particular game, select a prize for a particular game, or make game decisions which affect the outcome of a particular game. The player may make these choices using the player-input switches **32,** the video display screen **34** or using some other device which enables a player to input information into the gaming machine. Certain player choices may be captured by player tracking software loaded in a memory inside of the gaming machine. For example, the rate at which a player plays a game or the amount a player bets on each game may be captured by the player tracking software.

During certain game events, the gaming machine **2** may display visual and auditory effects that can be perceived by the player. These effects add to the excitement of a game, which makes a player more likely to continue playing. Auditory effects include various sounds that are projected by the speakers **10**, **12**, **14**. Visual effects include flashing lights, strobing lights or other patterns displayed from lights on the gaming machine **2,** from lights behind the belly glass **40** or the light panel on the player tracking unit **44**.

After the player has completed a game, the player may receive game tokens from the coin tray **38** or the ticket **20** from the printer **18,** which may be used for further games or to redeem a prize. Further, the player may receive a ticket **20** for food, merchandise, or games from the printer **18.** The type of ticket **20** may be related to past game playing recorded by the player tracking software within the gaming machine **2.** In some embodiments, these tickets may be used by a game player to obtain game services or as a receipt for game service transactions made on the gaming machine.

FIG. **8** is a flow chart of a method for providing gaming services on a touch screen display of the present invention. In **700,** a user, such a game player or a casino operator, may enter identification information via a touch screen display. For instance, a PIN number may be entered via a key pad displayed on the touch screen display, a player may "sign-in" by providing a signature via the touch screen display or combinations thereof. In **705,** a game service interface menu may be displayed to the touch screen display. The game service interface menu may allow the user to select from a number of game service interface available to the user. The game service interface menu may be user specific. For instance, a casino operator may have access to different game service interfaces than a game player. **As** another example, a "special" status game player, as determined by a

gaming establishment, may have access to special game service interfaces not available to every game player.

In **710**, a game service interface is selected from the game service interface menu using the touch screen display. In **715**, the selected game service interface is displayed. For instance, the selected game service interface may allow a player to join a player tracking program at a gaming machine. In **720,** a processor, providing player tracking services, may receive a number of touch screen events via the game service interface that may be converted into game service transaction information. The location of touches on the touch screen display may allow the processor to generate game service transaction information and instructions. For instance, as part of a "point of play registration," a player may type in their name and address by touching the touch screen at locations where different alpha-numeric symbols are displayed.

In **725,** based upon information entered by the user, a game service or game service transaction may be provided. As an example of a game service, the user may be able to view selected video content on the touch screen display. As examples of game service transactions, the user may be registered in a player tracking program, redeem a prize, or transfer credits to one or more cashless instruments such as printed ticket. In **730**, a receipt may be optionally generated as a record of the game service transaction provided. The receipt may be printed on a printer located on the gaming machine. As examples, the receipt may be a coupon for a promotion requested by the player or an entertainment reservation made by the player. In **735**, the user may have the option to request access to another game service interface. When the user requests access to another game service interface, the game service interface menu may be re-displayed according to **705.**

FIG. **9** is a flow chart of a method for providing a "point of play" loyalty program registration on a gaming machine of the present invention. In FIG. **9**, the method is implemented on a gaming machine. However, as described with respect to FIG. **3**E, the method may be implemented on gaming devices such as a hand-held wireless device or a casino kiosk. In **800**, a request to register a player for a loyalty program is detected.

The registration request may be initiated using a touch screen interface located on a player tracking display, main display or secondary display on the gaming machine. Further, the registration request may initiated using another input mechanism on the gaming machine such as input buttons or a key pad available on the gaming machine. In one embodiment, the registration request may be initiated automatically by the gaming machine. For instance, when a player is not involved in a player tracking session during a game play session on the gaming machine, the gaming machine may initiate a registration request based upon the amount a player has wagered over a time period during the game play session. The gaming machine may initiate the request by displaying a message to the player asking them if they would like to register for a loyalty program.

In **805,** a game service interface is displayed on a touch screen peripheral interface available on the gaming machine such as on but not limited to the player tracking unit. In **810,** information from a loyalty program instrument such as a magnetic striped card, smart card, room key or a portable wireless device may be read into to the gaming machine. For instance, in one embodiment, to register for a player tracking program, a blank magnetic striped card may be inserted into a card reader on the gaming machine to read a serial number on the card. In **815,** the user may enter identification information, such as a name and address, via the registration touch screen interface which is received by a processor located on the gaming machine such as in the player tracking unit or in the master gaming controller. When the user has completed entering the information, an input button on the touch screen display such as "register" button may be touched (see FIG. **3E).**

In **818,** the information entered by the user is checked. In **816,** when additional information is required, a message may be sent to the touch screen display with a request for the missing information. In **820**, when the user has entered the required registration information, a registration request message is generated by a processor on the gaming machine and sent to a playing tracking server. The registration request message may include player identification information and information obtained from the loyalty program instrument such as the serial number from the magnetic striped card. In some embodiments, the network connection to the player tracking server may be unavailable. In this case, the processor may store the registration request message and send it when the player tracking server becomes available.

In **825**, the gaming machine receives a registration reply from the player tracking server. In **830**, the gaming machine determines if the registration has been confirmed from the registration reply message. In **845**, when the registration has not been confirmed, a message may be displayed to the player indicating the registration request was denied with a reason for the denial. For instance, the registration may denied because the player is already registered for the player tracking program. In **833,** when the registration has been confirmed by the player tracking server, a confirmation message may be displayed to the player and a player tracking session may be initiated on the gaming machine **840.** In **835,** a receipt indicating the registration has occurred may be generated by the gaming machine.

After registration, the player may use the registered loyalty program instrument, such as a magnetic striped card, PDA (personal digital assistant), cell phone, room key or smart card, at other gaming machines to initiate a loyalty program sessions such as player tracking sessions. In some embodiments, the loyalty program instrument used during the registration process may be a permanent membership card that may be used by the player to participate in the loyalty program. In other embodiments, the loyalty program instrument used during the registration may be temporarily used by the player until a permanent membership card is mailed to the player.

FIG. **10** is a flow chart of a method for providing a "point of play" loyalty program registration on a player tracking server of the present invention. In **900,** the player tracking server receives a registration request message from a gaming device. The gaming device may be at least one of a gaming machine, casino kiosk or hand-held wireless device. The sent message may be encrypted by the gaming device and then decrypted by the player tracking server. The message contents and the message sender may also be validated in some manner before the registration request is processed. In **905,** the player tracking server may compare identification information and instrument information contained in the registration request message with information stored in a player tracking database. In **910,** the player tracking server may determine if the player is already a member of the player tracking program. In **915,** when the player is already registered, a registration reply message may be generated and sent to the gaming device indicating that the registration was denied because the player is already a member of the program.

In **920,** when the player is not a member of the player tracking program, the player tracking server may generate a new player tracking account using the player identification information and loyalty program instrument information contained in the registration request message. The identification information may include biometric information such as scanned finger-print, picture, voice print or signature that may be stored in the new player tracking account. In **925,** a registration reply message, which includes a confirmation of the registration, is generated by the player tracking server and sent to the gaming device. In **930**, a PIN number may later be sent to the player.

Although the foregoing invention has been described in some detail for purposes of clarity of understanding, it will be apparent that certain changes and modifications may be practiced within the scope of the appended claims. For instance, while the gaming machines of this invention have been depicted as upright models having top box mounted on top of the main gaming machine cabinet, the use of gaming devices in accordance with this invention is not so limited. For example, gaming machine may be provided without a top box or the gaming machine may be of a slant-top or a table top design.

What is claimed is:

1. A player tracking unit comprising:

a display for displaying video images;

a touch screen including;

a touch screen sensor mounted over the display;

a touch screen controller for detecting an activation of the touch screen sensor and for sending input signals with information indicating an activated location on the touch screen sensor;

a sound projection device wherein the sound projection device is adapted for outputting sound messages in response to operations performed on the player tracking unit by a user;

a card reader for reading a player tracking card storing player tracking information;

a logic device adapted for;

a) communicating with the display, the touch screen, the card reader, the sound projection device, a master gaming controller that controls a game played on a gaming machine and a player tracking server,

b) receiving input signals from the touch screen controller with the information indicating the activated location on the touch screen sensor;

c) executing gaming logic wherein the gaming logic comprises:

i) providing video images on the display for a list of game services available on the player tracking unit

ii) generating video images for a plurality game surface interfaces on the display, each game service interface including at least one input area and corresponding to one of the game services available on the player tracking unit, wherein the plurality of game service interfaces includes a key pad interface for entering alpha-numeric data;

iii) generating input data corresponding to touches in the input area;

iv) generating one or more of: 1) a bonus game interface on the display and receiving input signals from the touch screen corresponding to input areas on the bonus game interface wherein the bonus game interface is used to present a bonus game, 2) a loyalty program account interface on the display and receiving input signals from the touch screen corresponding to input areas on the loyalty program account interface wherein the loyalty program account interface is used to view loyalty program account information, and 3) a loyalty program registration interface on the display and receiving input signals from the touch screen corresponding to input areas on the loyalty program registration interface wherein the loyalty program registration interface is used to register a person in a loyalty program; and

a housing for securing the display, the sound projection device, the card reader and the logic device.

2. The player tracking unit of claim **1,** further comprising:

one or more of the following player tracking interface devices connected to the housing: a bonus button, a microphone, a camera, a wireless interface device, a proximity sensor, a key pad, a bar-code reader, an illumination device, a retinal scanner and a finger print reader.

3. The player tracking unit of claim **1,** wherein the touch screen sensor is at least one of a capacitive touch screen sensor, a resistive touch screen sensor and an acoustic wave touch screen sensor.

4. The player tracking unit of claim **1**, wherein the display is at least one of a LED display, a LCD display, a plasma display and a CRT.

5. The player tracking unit of claim **1,** wherein the display is a color LCD.

6. The player tracking unit of claim **5,** wherein the resolution of the display is 320 pixels by 240 pixels.

7. The player tracking unit of claim **1,** wherein the touch screen is activated using a finger or a stylus.

8. The player tracking unit of claim **1**, wherein the input buttons are selected from the group consisting of alphabetic symbols, numeric symbols and functional symbols.

9. The player tracking unit of claim **8,** wherein alphabetic symbols are selected from one or more alphabets.

10. The player tracking unit of claim **8,** wherein the functional symbols are animated.

11. The player tracking unit of claim **1,** wherein the input buttons are rendered in 3-D.

12. The player tracking unit of claim **1,** wherein the input buttons are animated.

13. The player tracking unit of claim **1**, wherein the input buttons are surface shaded in color.

14. The player tracking unit of claim **1,** wherein a sound is emitted from the sound projection device when the input area is touched.

15. The player tracking unit of claim **1,** wherein the logic device communicates with the master gaming controller using at least one of USB, RS-232, and IEE 1394.

16. The player tracking unit of claim **1,** wherein the logic device communicates with master gaming controller using a wireless communication protocol.

17. The player tracking unit of claim **10**, wherein the wireless communication protocol is selected from the group consisting of Bluetooth, IrDA, IEEE 802.11a, IEEE 802.11b, IEEE 802.11x, hiperlan/2, and HomeRF.

18. The player tracking unit of claim **1,** wherein the logic device is adapted for communicating with the touch screen using at least one of a USB communication standard, an IEEE 1394 communication standard or a PS/2 communication standard.

19. The player tracking unit of claim **1,** further comprising:

an Ethernet interface.

20. The player tracking unit of claim **1**,

wherein said gaming logic further comprises generating a game interface on the display and receiving input

signals from the touch screen corresponding to input areas on the game interface wherein the game interface is used to play a game.

21. The player tracking unit of claim **1,** wherein the key pad interface is used to input player tracking identification information.

22. The player tracking unit of claim **1,**

wherein the logic device is further adapted for generating the bonus game interface on the display.

23. The player tracking unit of claim **1,**

wherein said gaming logic further comprises generating a writing interface on the display and receiving input signals from the touch screen corresponding to game information written on the writing interface.

24. The player tracking unit of claim **23,**

wherein said game logic further comprises recognizing alpha-numeric characters corresponding to the game information written on the writing interface.

25. The player tracking unit of claim **1,**

wherein the logic device is further adapted for generating the loyalty program account interface on the display.

26. The player tracking unit of claim **1,**

wherein said gaming logic further comprises generating a metering information interface on the display and receiving input signals from the touch screen corresponding to input areas on the metering information interface wherein the metering information interface is used to view metering information from the gaming machine.

27. The player tracking unit of claim **1,**

wherein is further adapted for generating the loyalty program registration interface on the display.

28. The player tracking unit of claim **1,**

wherein said gaming logic further comprises generating an entertainment content interface on the display and receiving input signals from the touch screen corresponding to input areas on the entertainment content interface wherein the entertainment content interface is used to select an entertainment content source to be displayed on said display.

29. The player tracking unit of claim **1,**

wherein said gaming logic further comprises for generating a prize redemption interface on the display and receiving input signals from the touch screen corresponding to input areas on the prize redemption interface wherein the prize redemption interface is used to redeem a prize.

30. The player tracking unit of claim **1,**

wherein said gaming logic further comprises for generating a calculator interface on the display and receiving input signals from the touch screen corresponding to input areas on the calculator interface wherein the calculator interface is used to perform arithmetic operations.

31. The player tracking unit of claim **1,** wherein the key pad interface is used to request a drink.

32. The player tracking unit of claim **1,** wherein the key pad interface is used to enter a PIN code.

33. The player tracking unit of claim **1,**

wherein said gaming logic further comprises a diagnostic interface on the display and receiving input signals from the touch screen corresponding to input areas on the diagnostic interface wherein the diagnostic interface is used to obtain status information for gaming device on the gaming machine.

34. The player tracking unit of claim **1:**

wherein said gaming logic further comprises a web interface on the display and receiving input signals from the touch screen corresponding to input areas on the web interface wherein the web interface is used to view web pages on the Internet.

35. The player tracking unit of claim **1,**

wherein said gaming logic further comprises a reservation interface on the display and receiving input signals from the touch screen corresponding to input areas on the reservation interface wherein the reservation interface is used to make a reservations for at least one of food, lodging and entertainment.

36. The player tracking unit of claim **1,**

wherein said gaming logic further comprises generating a communication interface on the display and receiving input signals from the touch screen corresponding to input areas on the communication interface wherein the communication interface is used to communicate with another person.

37. The player tracking unit of claim **1,**

wherein said gaming logic further comprises generating an account interface on the display and receiving input signals from the touch screen corresponding to input buttons on the account interface wherein the account interface is used to transfer funds to a banking account.

38. The player tracking unit of claim **1,** further comprising an illumination device wherein the illumination device is illuminated to signal a casino service representative to register a player to a loyalty program.

39. The player tracking unit of claim **1,** wherein one or more portions of the display are illuminated for at least one of: a) to signal a casino service representative to register a player to a loyalty program, b) to provide game information to a game player, c) to indicate machine status information and d) combinations thereof.

40. A gaming machine comprising:

a master gaming controller adapted for controlling one or more games played on the gaming machine and communicating with a player tracking unit connected to the gaming machine; and

the player tracking unit comprising;

a display for displaying video images;

a touch screen including;

a touch screen sensor mounted over the display;

a touch screen controller for detecting an activation of the touch screen sensor and for sending input signals with information indicating an activated location on the touch screen sensor;

a sound projection device wherein the sound projection device is adapted for outputting sound messages in response to operations performed on the player tracking unit by a user;

a card reader for reading a player tracking card storing player tracking information;

a logic device adapted for;

a) communicating with the display, the touch screen, the card reader, the sound projection device, a master gaming controller that controls a game played on a gaming machine and a player tracking server,

b) receiving input signals from the touch screen controller with the information indicating the activated location on the touch screen sensor;

c) executing gaming logic wherein the gaming logic comprises:

i) providing video images on the display for a list of game services available on the player tracking unit

ii) generating video images for a plurality game surface interfaces on the display, each game service interface including at least one input area and corresponding to one of the game services available on the player tracking unit, wherein the plurality of game service interfaces includes a key pad interface for entering alpha-numeric data;

iii) generating input data corresponding to touches in the input area;

iv) generating one or more of: 1) a bonus game interface on the display and receiving input signals from the touch screen corresponding to input areas on the bonus game interface wherein the bonus game interface is used to present a bonus game, 2) a loyalty program account interface on the display and receiving input signals from the touch screen corresponding to input areas on the loyalty program account interface wherein the loyalty program account interface is used to view loyalty program account information, and 3) a loyalty program registration interface on the display and receiving input signals from the touch screen corresponding to input areas on the loyalty program registration interface wherein the loyalty program registration interface is used to register a person in a loyalty program; and

a housing for securing the display, the sound projection device, the card reader and the logic device.

41. The gaming machine of claim **40,** wherein the master gaming controller is adapted for operating one or more of player tracking interface devices, the display and the touch screen.

42. The gaming machine of claim **40,** wherein the one or more games is selected from the group consisting of video slot games, mechanical slot games, video blackjack games, video poker games, video keno games, video pachinko games, video card games, video games of chance and combinations thereof.

43. The gaming machine of claim **40,** wherein at least one of the logic device and the master gaming controller is adapted for communicating with a portable wireless device.

44. The gaming machine of claim **43,** wherein the player tracking unit is capable of sending loyalty program information to the portable wireless device and receiving loyalty program information from the portable wireless device.

45. The gaming machine of claim **43,** wherein the portable wireless device is a personal digital assistant.

46. The gaming machine of claim **43,** wherein at least one of the logic device and the master gaming controller communicate with a portable wireless device using a wireless communication protocol selected from the group consisting of Bluetooth, IrDA, IEEE 802.11a, IEEE 802.11b, IEEE 802.11x, hiperlan/2, and HomeRF.

47. The gaming machine of claim **40,** wherein the master gaming controller and the logic device communicate with each other using a wireless communication protocol selected from the group consisting of Bluetooth, IrDA, IEEE 802.11a, IEEE 802.11b, IEEE 802.11x, hiperlan/2, and HomeRF.

48. The gaming machine of claim **40,** wherein the master gaming controller and the logic device communicate with each other using a communication protocol selected from the group consisting of USB, IEE 1394, RS-232, and IrDA.

49. The gaming machine of claim **40,** wherein the gaming logic further comprises generating a game interface on the display and receiving input signals from the touch screen corresponding to input areas on the game interface wherein the game interface is used to play a game.

50. The gaming machine of claim **40,** wherein the logic device is further adapted for generating the bonus game interface on the display.

51. The gaming machine of claim **40,** wherein the gaming logic further comprises generating a writing interface on the display and receiving input signals from the touch screen corresponding to game information written on the writing interface.

52. The gaming machine of claim **51,** wherein the gaming logic further comprises recognizing alpha-numeric characters corresponding to the game information written on the writing interface.

53. The gaming machine of claim **40,** wherein the logic device is further adapted for generating the loyalty program account interface on the display.

54. The gaming machine of claim **40,** wherein the gaming logic further comprises generating a metering information interface on the display and receiving input signals from the touch screen corresponding to input areas on the metering information interface wherein the metering information interface is used to view metering information from the gaming machine.

55. The gaming machine of claim **40,** wherein the logic device is further adapted for generating the loyalty program registration interface on the display.

56. The gaming machine of claim **40,** wherein the gaming logic further comprises generating an entertainment content interface on the display and receiving input signals from the touch screen corresponding to input areas on the entertainment content interface wherein the entertainment content interface is used to select an entertainment content source to be displayed on said display.

57. The gaming machine of claim **40,** wherein the gaming logic further comprises generating a prize redemption interface on the display and receiving input signals from the touch screen corresponding to input areas on the prize redemption interface wherein the prize redemption interface is used to redeem a prize.

58. The gaming machine of claim **40,** wherein the gaming logic further comprises generating a calculator interface on the display and receiving input signals from the touch screen corresponding to input areas on the calculator interface wherein the calculator interface is used to perform arithmetic operations.

59. The gaming machine of claim **40,** wherein the key pad interface is used to request a drink.

60. The gaming machine of claim **40,** wherein the key pad interface is used to enter a PIN code.

61. The gaming machine of claim **40,** wherein the gaming logic further comprises generating a diagnostic interface on the display and receiving input signals from the touch screen corresponding to input areas on the diagnostic interface wherein the diagnostic interface is used to obtain status information for gaming device on the gaming machine.

62. The gaming machine of claim **40,** wherein the gaming logic further comprises generating a web interface on the display and receiving input signals from the touch screen corresponding to input areas on the web interface wherein the web interface is used to view web pages on the Internet.

63. The gaming machine of claim **40,** wherein the gaming logic further comprises generating a reservation interface on the display and receiving input signals from the touch screen corresponding to input areas on the reservation interface wherein the reservation interface is used to make a reservations for at least one of food, lodging and entertainment.

64. The gaming machine of claim **40,** wherein the gaming logic further comprises generating a communication interface on the display and receiving input signals from the touch screen corresponding to input areas on the communication interface wherein the communication interface is used to communicate with another person.

65. The gaming machine of claim **40,** wherein the gaming logic further comprises generating an account interface on the display and receiving input signals from the touch screen corresponding to input buttons on the account interface wherein the account interface is used to transfer funds to a banking account.

66. A player tracking system comprising:

a player tracking server;

a plurality of gaming machines, said gaming machines each comprising:

a master gaming controller adapted for controlling one or more games played on the gaming machine and communicating with a player tracking unit connected to the gaming machine; and

the player tracking unit comprising;

a display for displaying video images;

a touch screen including;

a touch screen sensor mounted over the display;

a touch screen controller for detecting an activation of the touch screen sensor and for sending input signals with information indicating an activated location on the touch screen sensor;

a sound projection device wherein the sound projection device is adapted for outputting sound messages in response to operations performed on the player tracking unit by a user;

a card reader for reading a player tracking card storing player tracking information;

a logic device adapted for;

a) communicating with the display, the touch screen, the card reader, the sound projection device, the master gaming controller that controls the game played on the gaming machine and the player tracking server,

b) receiving input signals from the touch screen controller with the information indicating the activated location on the touch screen sensor;

c) executing gaming logic wherein the gaming logic comprises:

i) providing video images on the display for a list of game services available on the player tracking unit

ii) generating video images for a plurality game surface interfaces on the display, each game service interface including at least one input area and corresponding to one of the game services available on the player tracking unit, wherein the plurality of game service interfaces includes a key pad interface for entering alpha-numeric data;

iii) generating input data corresponding to touches in the input area;

iv) generating one or more of: **1)** a bonus game interface on the display and receiving input signals from the touch screen corresponding to input areas on the bonus game interface wherein the bonus game interface is used to present a bonus game, 2) a loyalty program account interface on the display and receiving input signals from the touch screen corresponding to input areas on the loyalty program account interface wherein the loyalty program account interface is used to view loyalty program account information, and 3**)** a loyalty program registration interface on the display and receiving input signals from the touch screen corresponding to input areas on the loyalty program registration interface wherein the loyalty program registration interface is used to register a person in a loyalty program; and

a housing for securing the display, the sound projection device, the card reader and the logic device.

67. A method of providing one or more game services on a gaming machine using a touch screen display mounted in a player tracking unit, the method comprising:

displaying a key pad interface with a plurality of input buttons to the touch screen display;

receiving one or more first input signals from a touch screen wherein each input signal corresponds to a selection of one of the plurality of input buttons on the key pad interface;

displaying a list of game services on the touch screen display;

receiving a second input signal from the touch screen that contains information indicating a selected game service from the list of game services;

displaying a game service interface with a plurality of input buttons for the selected game service to the touch screen display wherein the input buttons are used to provide the selected game service;

receiving a plurality of third input signals from the touch screen wherein said plurality of third input signals are used to select input buttons on the game service interface; and

initiating a loyalty program session.

68. The method of claim **67,** further comprising:

detecting an input signal to initiate a loyalty program session.

69. The method of claim **67,** further comprising:

entering a PIN number using the key pad interface.

70. The method of claim **67,** further comprising:

validating an identity of a user of the player tracking unit.

71. The method of claim **70,** wherein the list of game services is varied according to the identity of the user.

72. The method of claim **67,** further comprising:

displaying a hand-writing interface to the touch screen display.

73. The method of claim **72,** further comprising:

receiving written input from the hand-writing interface on the touch screen.

74. The method of claim **67,** wherein the touch screen is activated using a finger or a stylus.

75. The method of claim **67,** wherein the input buttons are selected from the group consisting of alphabetic symbols, numeric symbols and functional symbols.

76. The method of claim **67,** wherein alphabetic symbols are selected from one or more alphabets.

77. The method of claim **76,** wherein the functional symbols are animated.

78. The method of claim **67,** wherein the input buttons are rendered in 3-D.

79. The method of claim **67,** wherein the input buttons are animated.

80. The method of claim **67,** wherein the game service interface comprises two or more pages.

81. The method of claim **67,** further comprising:

selecting an input button on the key pad interface to order a drink.

82. The method of claim **67,** further comprising:

selecting an input button on the key pad interface to request a service.

83. The method of claim **67**, wherein the game service is selected from the group consisting of: a) playing a game, b) playing a bonus game, c) registering a player to loyalty program, d) displaying gaming machine metering information, e) performing arithmetic operations, f) making a reservation, g) providing gaming machine diagnostic information, h) displaying loyalty account information, i) redeeming a prize, j) making a food, lodging or entertainment reservation, k) communicating with another person, 1) providing a web-based service, m) providing a banking transaction and n) providing machine diagnostics.

84. The method of claim **67,** further comprising:

providing a receipt.

85. A gaming machine comprising:

a master gaming controller adapted for controlling one or more games played on the gaming machine and communicating with a player tracking unit connected to the gaming machine; and

the player tracking unit comprising;

a display for displaying video images;

a touch screen including;

a touch screen sensor mounted over the display;

a touch screen controller for detecting an activation of the touch screen sensor and for sending input signals with information indicating an activated location on the touch screen sensor;

a sound projection device wherein the sound projection device is adapted for outputting sound messages in response to operations performed on the player tracking unit by a user;

a card reader for reading a player tracking card storing player tracking information;

a logic device adapted for;

a) communicating with the display, the touch screen, the card reader, the sound projection device, the master gaming controller that controls the game played on the gaming machine and a player tracking server,

b) receiving input signals from the touch screen controller with the information indicating the activated location on the touch screen sensor;

c) executing gaming logic wherein the gaming logic comprises:

i) providing video images on the display for a list of game services available on the player tracking unit

ii) generating video images for a plurality game surface interfaces on the display, each game service interface including at least one input area and corresponding to one of the game services available on the player tracking unit, wherein the plurality of game service interfaces includes a key pad interface for entering alpha-numeric data;

iii) generating input data corresponding to touches in the input area;

a housing for securing the display, the sound projection device, the card reader and the logic device

wherein at least one of the logic device and the master gaming controller is adapted for communicating with a portable wireless device and wherein the player tracking unit is capable of sending loyalty program information to the portable wireless device and receiving loyalty program information from the portable wireless device.

86. A player tracking system comprising:

a player tracking server;

a plurality of wireless devices;

a plurality of gaming machines, said gaming machines each comprising:

a master gaming controller adapted for controlling one or more games played on the gaming machine and communicating with a player tracking unit connected to the gaming machine; and

the player tracking unit comprising;

a display for displaying video images;

a touch screen including;

a touch screen sensor mounted over the display;

a touch screen controller for detecting an activation of the touch screen sensor and for sending input signals with information indicating an activated location on the touch screen sensor;

a sound projection device wherein the sound projection device is adapted for outputting sound messages in response to operations performed on the player tracking unit by a user;

a card reader for reading a player tracking card storing player tracking information;

a logic device adapted for;

a) communicating with the display, the touch screen, the card reader, the sound projection device, the master gaming controller that controls the game played on the gaming machine and the player tracking server,

b) receiving input signals from the touch screen controller with the information indicating the activated location on the touch screen sensor;

c) executing gaming logic wherein the gaming logic comprises:

i) providing video images on the display for a list of game services available on the player tracking unit

ii) generating video images for a plurality game surface interfaces on the display, each game service interface including at least one input area and corresponding to one of the game services available on the player tracking unit, wherein the plurality of game service interfaces includes a key pad interface for entering alpha-numeric data;

iii) generating input data corresponding to touches in the input area; and

a housing for securing the display, the sound projection device, the card reader and the logic device

wherein at least one of the logic device and the master gaming controller is adapted for communicating with the portable wireless devices and wherein the player tracking unit is capable of sending loyalty program information to a first portable wireless device and receiving loyalty program information from the first portable wireless device.

87. A player tracking unit comprising:

a display for displaying video images;

a touch screen including;

a touch screen sensor mounted over the display;

a touch screen controller for detecting an activation of the touch screen sensor and for sending input signals with information indicating an activated location on the touch screen sensor;

a sound projection device wherein the sound projection device is adapted for outputting sound messages in response to operations performed on the player tracking unit by a user;

a card reader for reading a player tracking card storing player tracking information;

a logic device adapted for;

a) communicating with the display, the touch screen, the card reader, the sound projection device, a master gaming controller that controls a game played on a gaming machine and a player tracking server,

b) receiving input signals from the touch screen controller with the information indicating the activated location on the touch screen sensor;

c) executing gaming logic wherein the gaming logic comprises:

i) providing video images on the display for a list of game services available on the player tracking unit

ii) generating video images for a plurality game surface interfaces on the display, each game service interface including at least one input area and corresponding to one of the game services available on the player tracking unit, wherein the plurality of game service interfaces includes a key pad interface for entering alpha-numeric data;

iii) generating input data corresponding to touches in the input area;

iv) communicating with a portable wireless device; and

a housing for securing the display, the sound projection device, the card reader and the logic device wherein the player tracking unit is capable of sending loyalty program information to the portable wireless device and receiving loyalty program information from the portable wireless device.

* * * * *

EXHIBIT 2

US006722985B2

(12) **United States Patent**
Criss-Puszkiewicz et al.

(10) **Patent No.: US 6,722,985 B2**
(45) **Date of Patent: Apr. 20,2004**

(54) **UNIVERSAL PLAYER TRACKING SYSTEM**

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(73) Assignee: **IGT,** Reno, NV (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 206 days.

(21) Appl. No.: 091838,033

(22) Filed: **Apr.** 19, 2001

(65) **Prior Publication Data**

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(51) **Int. Cl.**[7] **G06F** 17/00

(52) **U.S. Cl.** ..... 463129; 463146; 2731148 R; 2731148 B

(58) **Field of Search** ..... 463129, 16, 42, 46311, 11–12, 13, 17, 18–20, 25, 30, 40, 41, 46, 47; 2351380, 375, 382; 700190, 92, 97; 2731138.1, 138.2, 139, 143 R, 292, 293; 3821100, 115, 118

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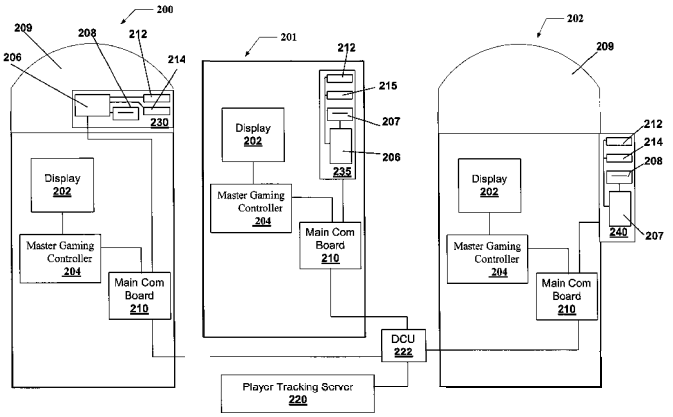
Primary *Examiner*—Teresa Wallberg
Assistant *Examiner*—Yveste G. Cherubin
(74) Attorney, Agent, or *Firm*—Beyer, Weaver & Thomas LLP

(57) **ABSTRACT**

A disclosed player tracking unit utilizes a memory arranged to store a plurality of different communication protocols allowing the player tracking unit to communicate with a plurality of different types of gaming machines and a plurality of different types of player tracking servers. The player tracking unit may contain many different types of player tracking peripheral devices such as card readers, key pads, displays, bonus buttons and biometric input mechanisms. The peripheral devices contained in the player tracking unit may be accessible to the master gaming controller on a gaming machine and may be utilized by the master gaming controller for other gaming applications. The player tracking unit may be designed with a standard housing and standard device layout allowing the player tracking unit to fit in many different types of gaming machines with minimal modifications to the gaming machine or the player tracking unit.

111 Claims, 10 **Drawing Sheets**



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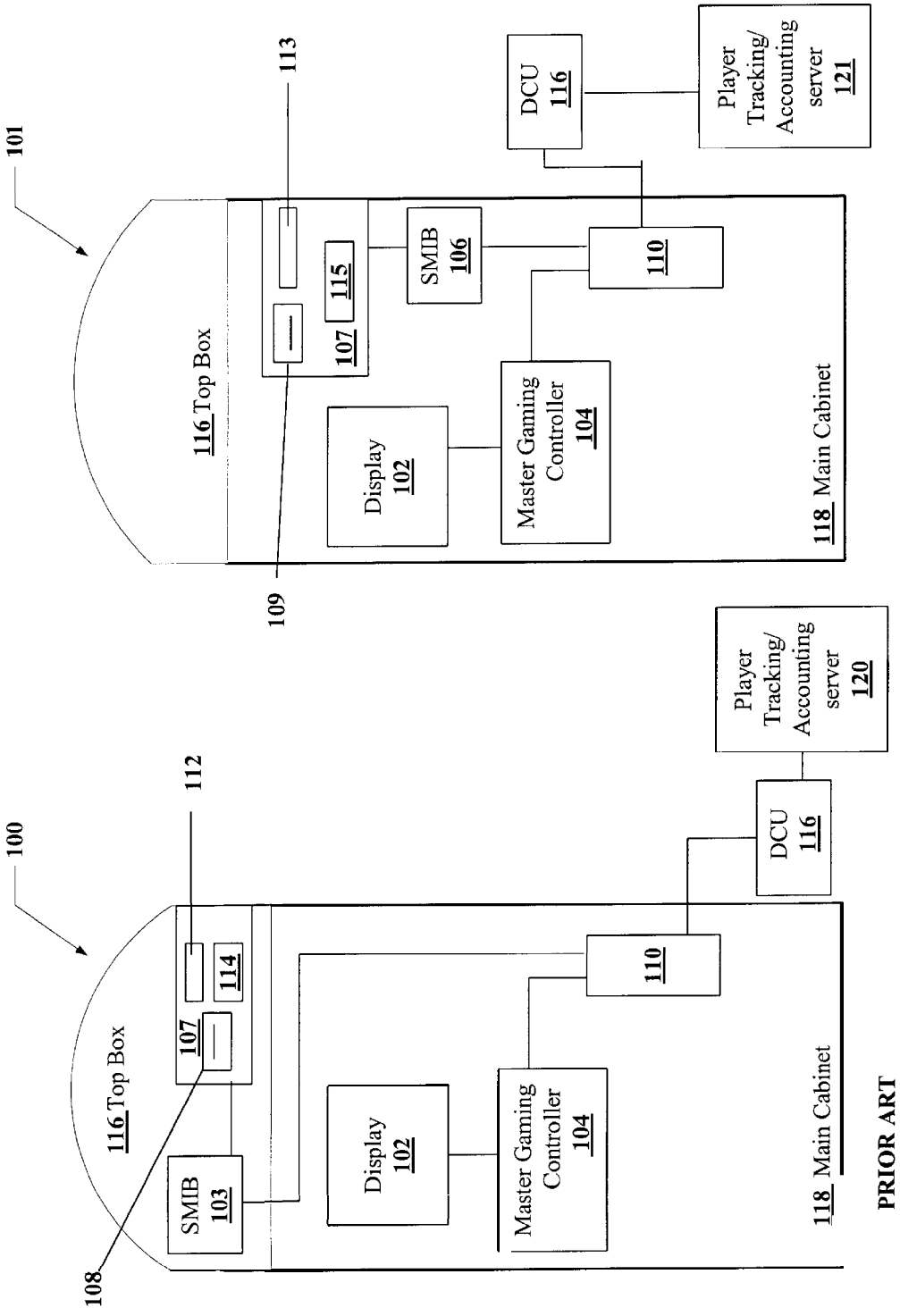
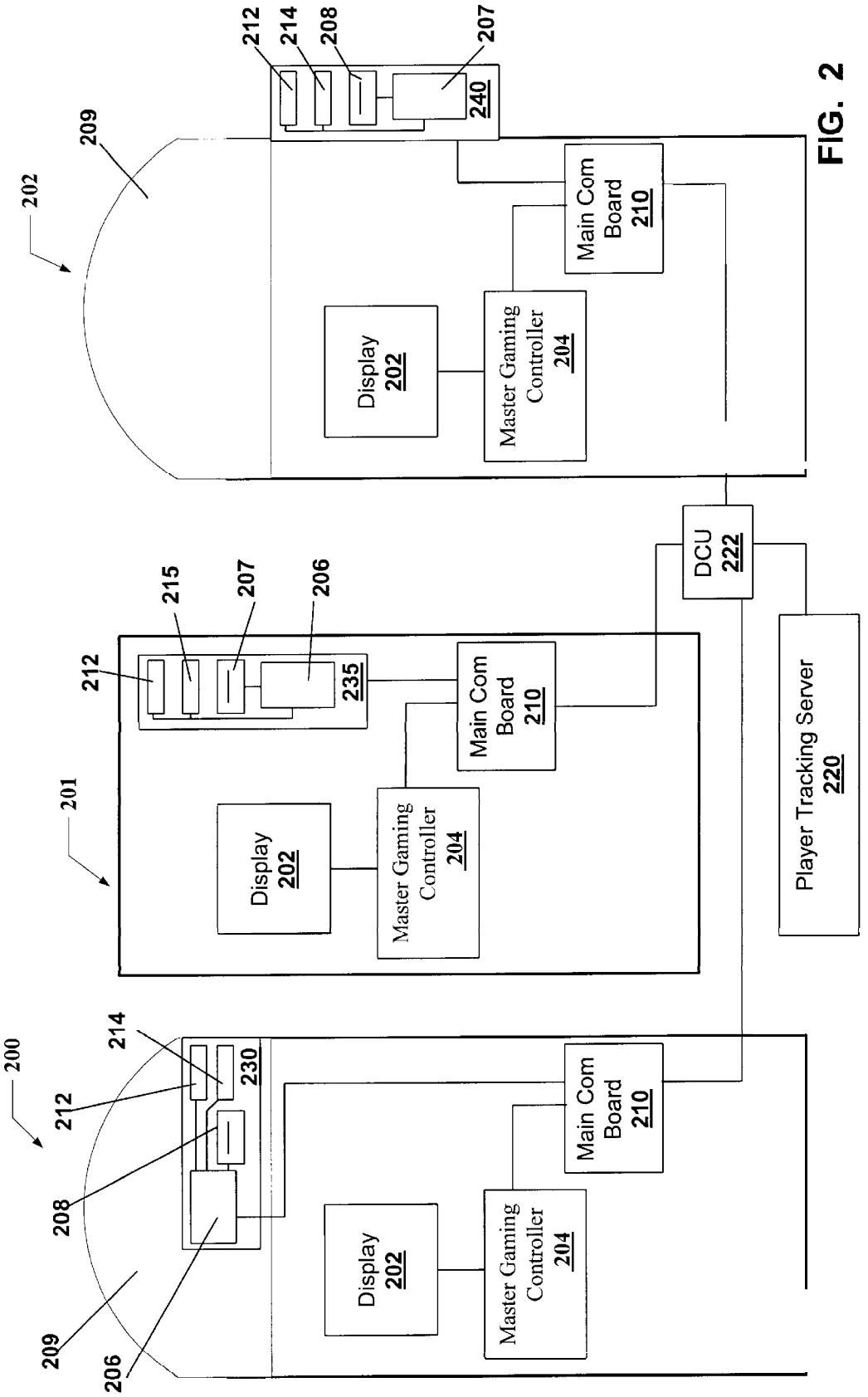


PRIOR ART

FIG. 1


212
214
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Main Com Board 210
Display 202
Master Gaming Controller 204
DCU 222
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Main Com Board 210
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Display 202
Master Gaming Controller 204
Player Tracking Server 220
200
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Main Com Board 210
Display 202
Master Gaming Controller 204
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206

FIG. 2

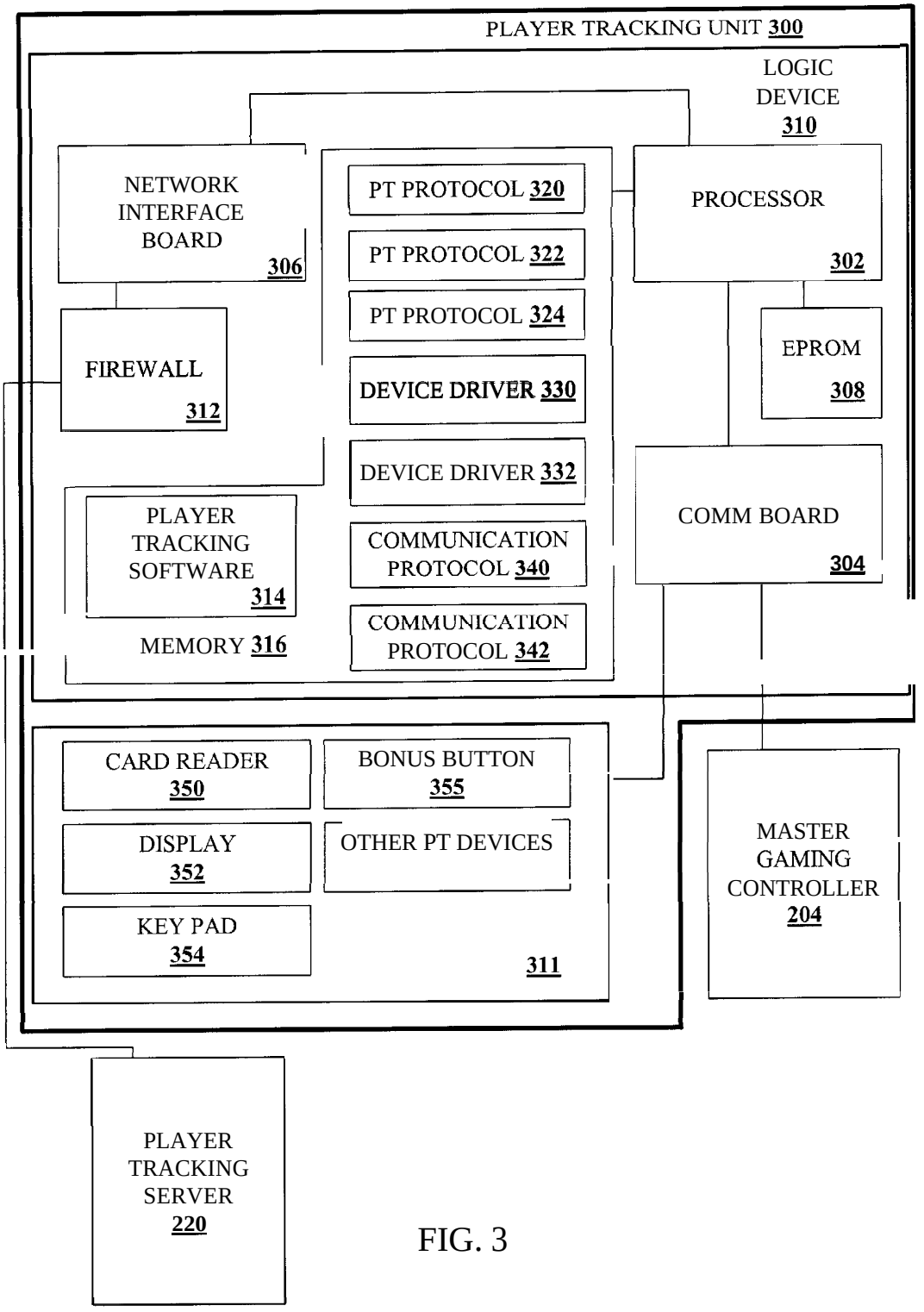
PLAYER TRACKING UNIT 300
LOGIC DEVICE 310
NETWORK INTERFACE BOARD 306
PT PROTOCOL 320
PT PROTOCOL 322
PT PROTOCOL 324
DEVICE DRIVER 330
DEVICE DRIVER 332
COMMUNICATION PROTOCOL 340
COMMUNICATION PROTOCOL 342
PROCESSOR 302
EPROM 308
COMM BOARD 304
FIREWALL 312
PLAYER TRACKING SOFTWARE 314
MEMORY 316
CARD READER 350
BONUS BUTTON 355
DISPLAY 352
OTHER PT DEVICES
KEY PAD 354
311
MASTER GAMING CONTROLLER 204
PLAYER TRACKING SERVER 220

FIG. 3

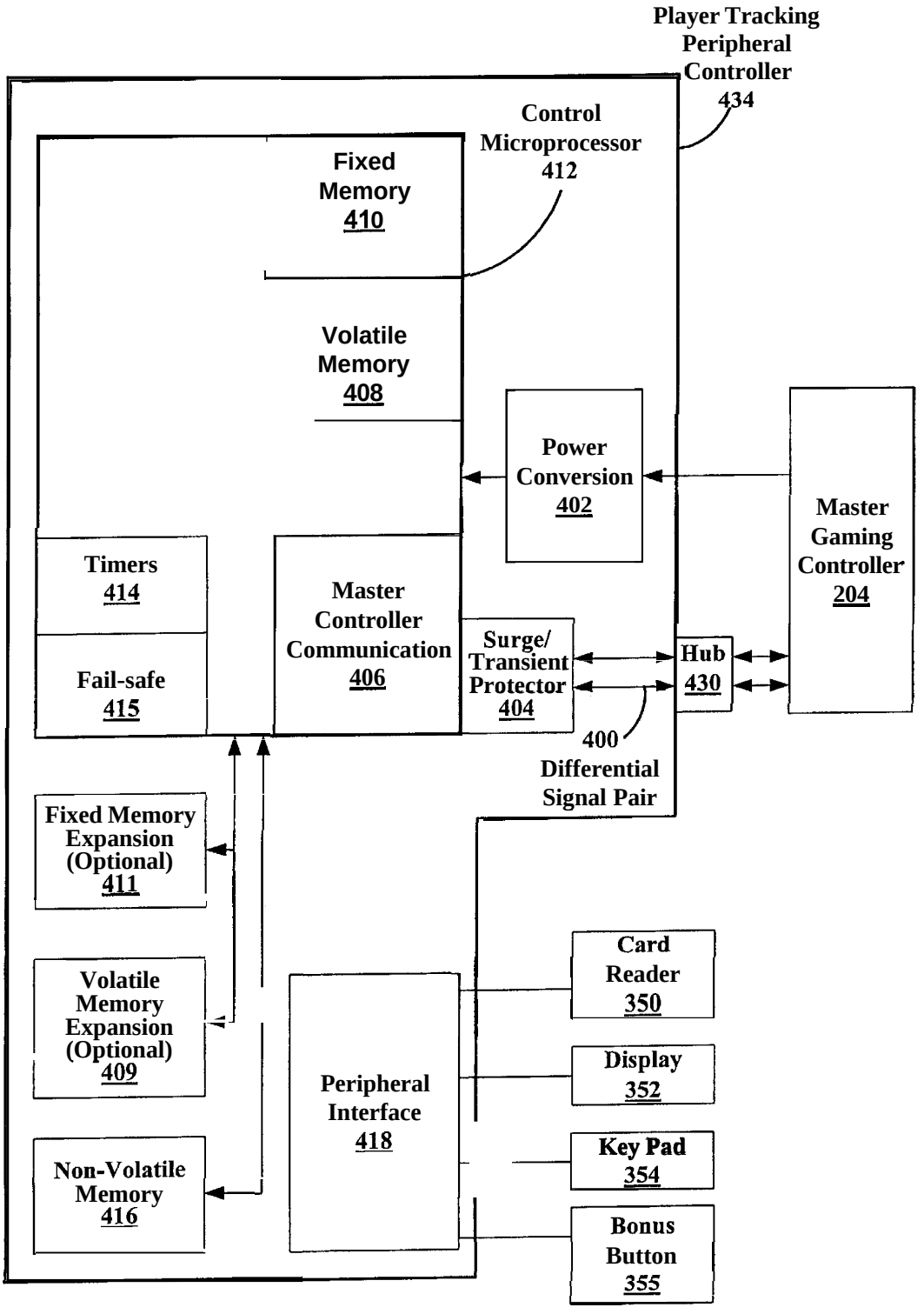
Player Tracking Peripheral Controller 434
Control Microprocessor 412
Fixed Memory 410
Volatile Memory 408
Power Conversion 402
Master Gaming Controller 204
Timers 414
Fail-safe 415
Master Controller Communication 406
Surge/ Transient Protector 404
Hub 430
400 Differential Signal Pair
Fixed Memory Expansion (Optional) 411
Volatile Memory Expansion (Optional) 409
Non-Volatile Memory 416
Peripheral Interface 418
Card Reader 350
Display 352
Key Pad 354
Bonus Button 355

FIG. 4

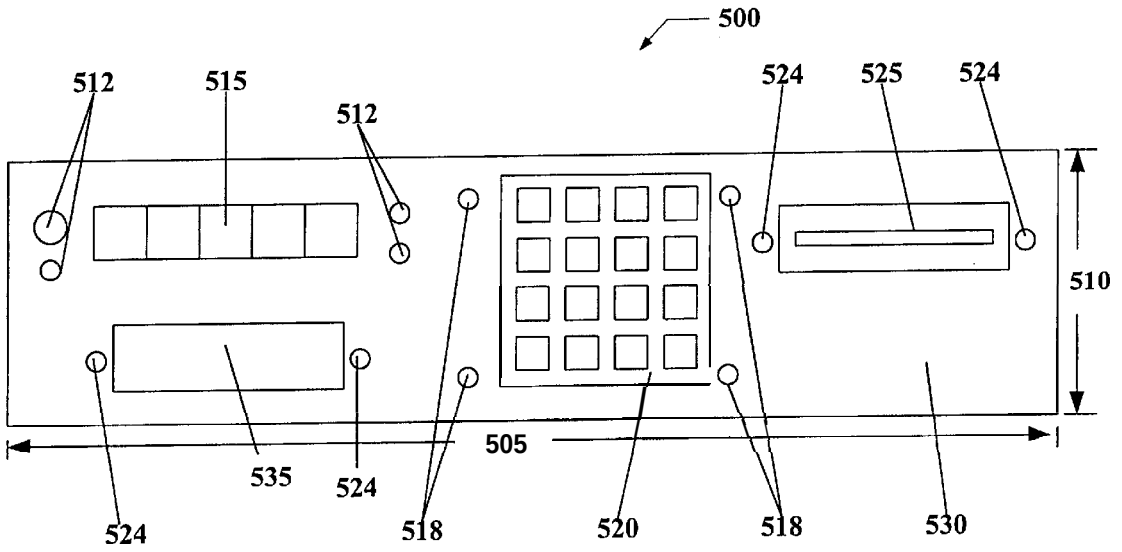
500
512
515
512
524
525
524
510
505
535
524
524
518
520
518
530

FIG. 5A

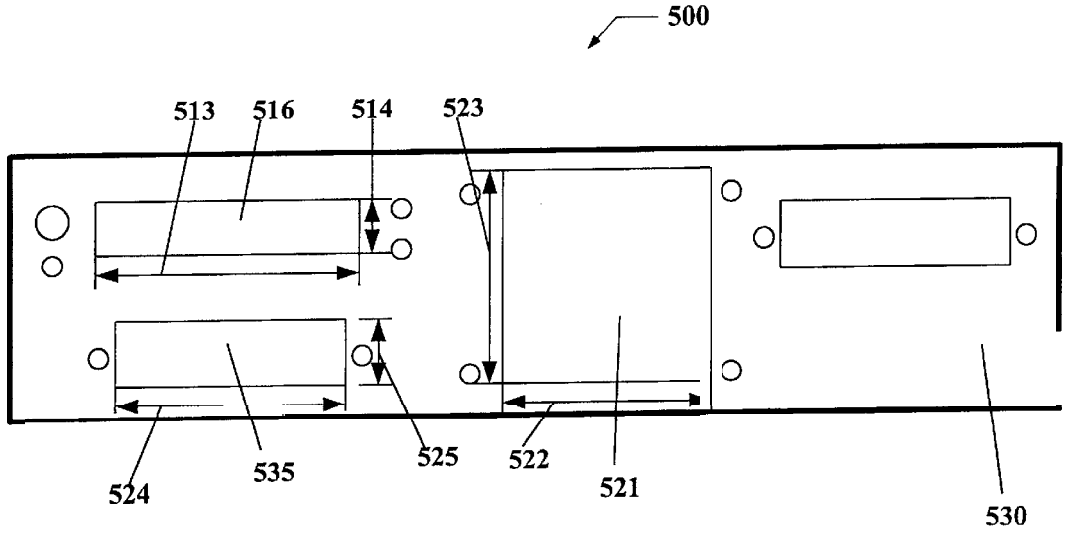
500
513
516
514
523
524
535
525
522
521
530

FIG. 5B

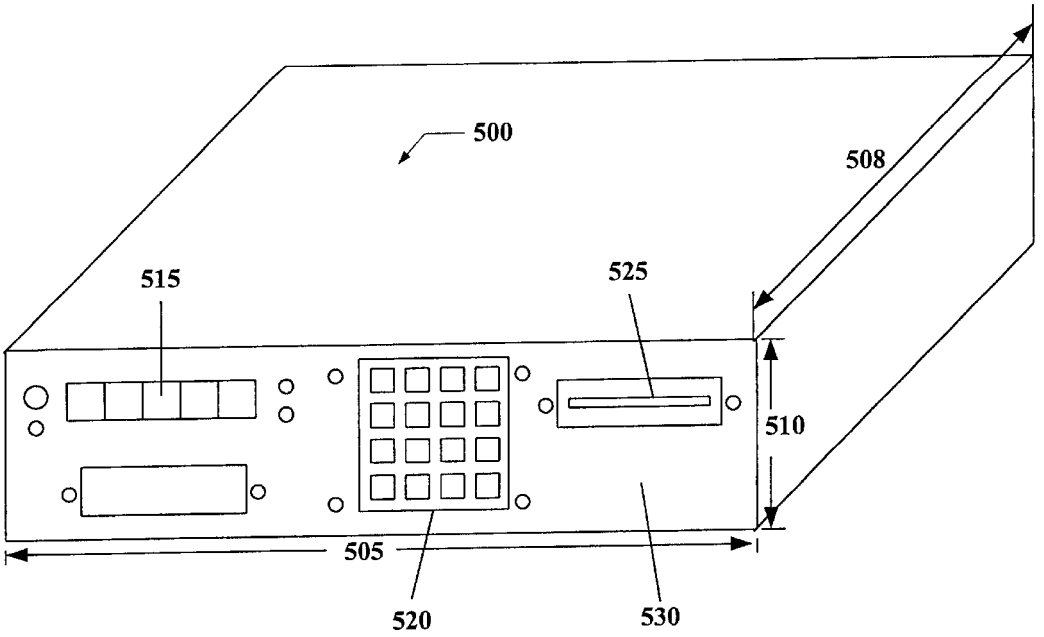

FIG. 5C

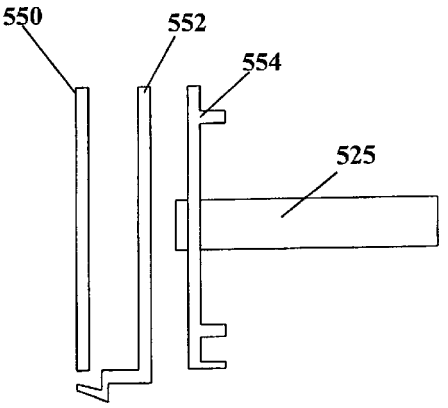

FIG. 5D

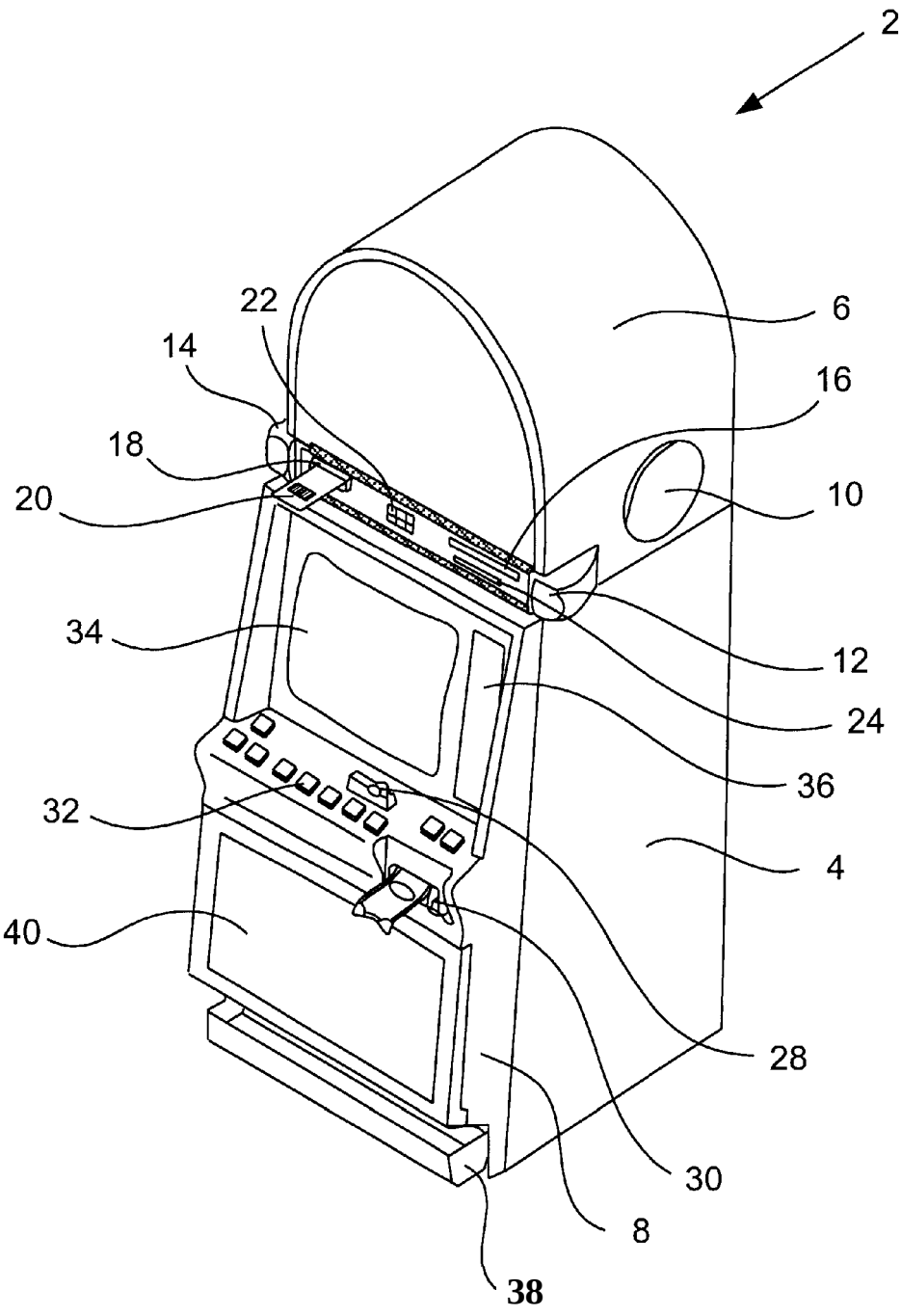

FIG. 6

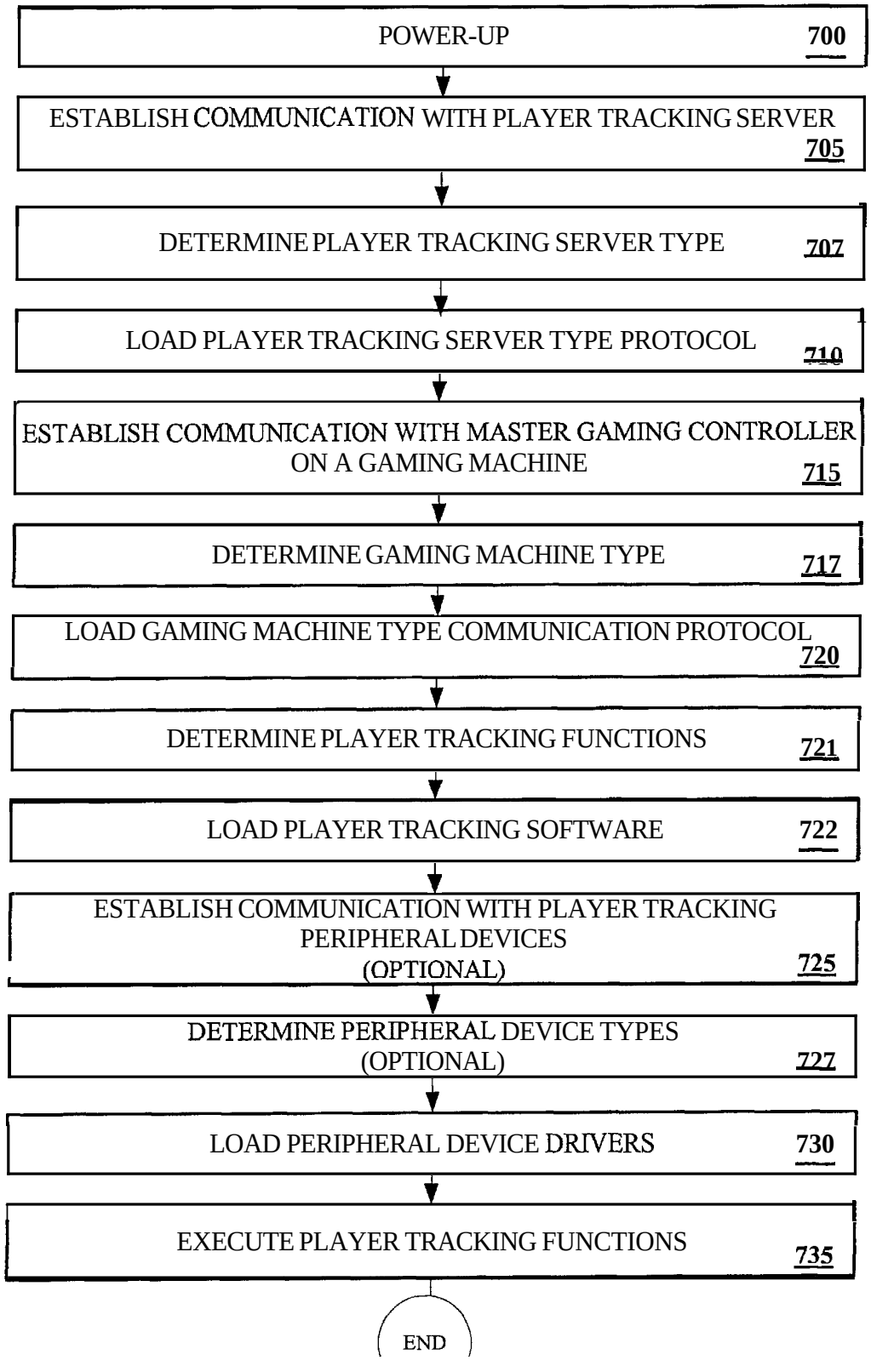
POWER-UP
700
ESTABLISH COMMUNICATION WITH PLAYER TRACKING SERVER
705
DETERMINE PLAYER TRACKING SERVER TYPE
707
LOAD PLAYER TRACKING SERVER TYPE PROTOCOL
710
ESTABLISH COMMUNICATION WITH MASTER GAMING CONTROLLER ON A GAMING MACHINE
715
DETERMINE GAMING MACHINE TYPE
717
LOAD GAMING MACHINE TYPE COMMUNICATION PROTOCOL
720
DETERMINE PLAYER TRACKING FUNCTIONS
721
LOAD PLAYER TRACKING SOFTWARE
722
ESTABLISH COMMUNICATION WITH PLAYER TRACKING PERIPHERAL DEVICES (OPTIONAL)
725
DETERMINE PERIPHERAL DEVICE TYPES (OPTIONAL)
727
LOAD PERIPHERAL DEVICE DRIVERS
730
EXECUTE PLAYER TRACKING FUNCTIONS
735
END

FIG. 7

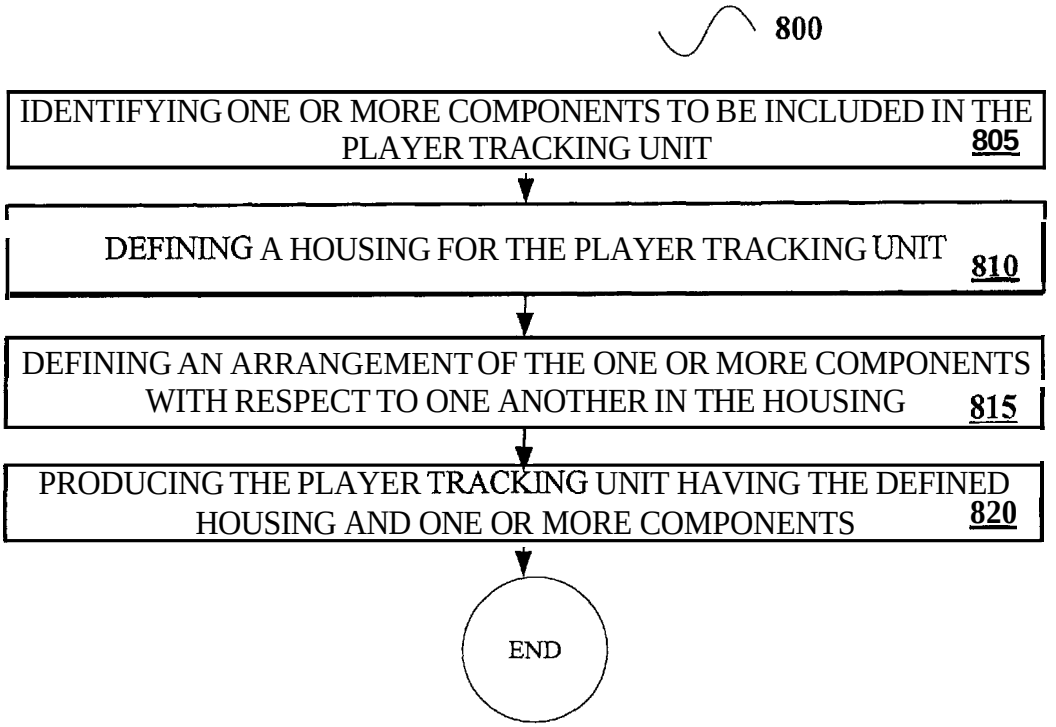
800
IDENTIFYING ONE OR MORE COMPONENTS TO BE INCLUDED IN THE PLAYER TRACKING UNIT
805
DEFINING A HOUSING FOR THE PLAYER TRACKING UNIT
810
DEFINING AN ARRANGEMENT OF THE ONE OR MORE COMPONENTS WITH RESPECT TO ONE ANOTHER IN THE HOUSING
815
PRODUCING THE PLAYER TRACKING UNIT HAVING THE DEFINED HOUSING AND ONE OR MORE COMPONENTS
820
END

FIG. 8

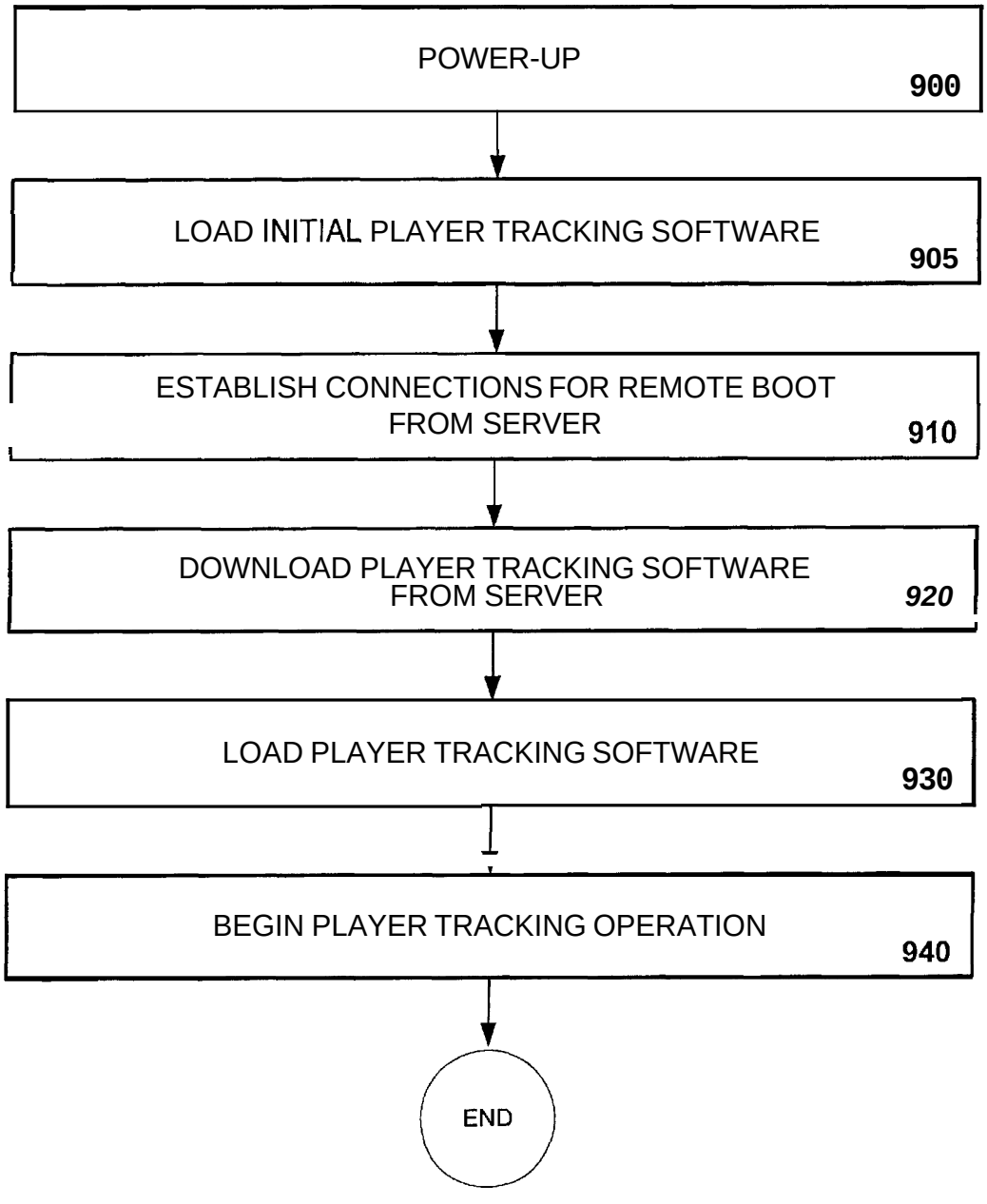
POWER-UP
900
LOAD INITIAL PLAYER TRACKING SOFTWARE
905
ESTABLISH CONNECTIONS FOR REMOTE BOOT FROM SERVER
910
DOWNLOAD PLAYER TRACKING SOFTWARE FROM SERVER
920
LOAD PLAYER TRACKING SOFTWARE
930
BEGIN PLAYER TRACKING OPERATION
940
END

FIGURE 9

UNIVERSAL PLAYER TRACKING SYSTEM

CROSS REFERENCE TO RELATED U.S. PATENT APPLICATIONS

This application is related to U.S. patent application Ser. No. 091414,659 entitled STANDARD PERIPHERAL COMMUNICATION, filed Oct. 6, 1999 and U.S. patent application Ser. No. 091642,192 entitled GAMING MACHINE VIRTUAL PLAYER TRACKING AND RELATED SERVICES, filed Aug. 18, 2000 each of which is incorporated herein by reference in its entirety for all purposes.

BACKGROUND OF THE INVENTION

This invention relates to game playing services for gaming machines such as slot machines and video poker machines. More particularly, the present invention relates to methods of providing player tracking game services to casinos and game players.

There are a wide variety of associated devices that can be connected to a gaming machine such as a slot machine or video poker machine. Some examples of these devices are player tracking units, lights, ticket printers, card readers, speakers, bill validators, ticket readers, coin acceptors, display panels, key pads, coin hoppers and button pads. Many of these devices are built into the gaming machine or components associated with the gaming machine such as a top box which usually sits on top of the gaming machine.

Typically, utilizing a master gaming controller, the gaming machine controls various combinations of devices that allow a player to play a game on the gaming machine and also encourage game play on the gaming machine. For example, a game played on a gaming machine usually requires a player to input money or indicia of credit into the gaming machine, indicate a wager amount, and initiate a game play. These steps require the gaming machine to control input devices, including bill validators and coin acceptors, to accept money into the gaming machine and recognize user inputs from devices, including key pads and button pads, to determine the wager amount and initiate game play. After game play has been initiated, the gaming machine determines a game outcome, presents the game outcome to the player and may dispense an award of some type depending on the outcome of the game.

For gaming machine operators, an important aspect of gaming machine operations is determining the game playing habits of individual game players. When the game playing habits of an individual player are known, the gaming machine operator may provide incentives corresponding to the game playing habits of the individual game player to encourage additional game play. For example, the gaming machine operator may provide an individual player with coupons for free meals, free rooms or discounted game play depending on their game playing habits. The game playing habits of individual game players are typically determined by monitoring game usage on a gaming machine using a player tracking unit. The player tracking unit collects game usage data and player identification information from the gaming machine which is sent to a remote server for archival and analysis purposes.

Currently, player tracking units are usually manufactured as an after-market device separate from the gaming machine. Many different companies manufacture player tracking units as part of player trackinglaccounting systems. These player trackinglaccounting systems are used in most casinos. While the type of player tracking system varies from casino to casino, a particular casino will utilize only one type of player tracking system (i.e. from one manufacturer).

FIG. **1** is a block diagram of two gaming machines, **100** and **101,** with player tracking units connected to two servers, **120** and **121,** providing player tracking/accounting services. Characteristics of a player tracking accountingisystem such as dimensions of the player tracking unit, communication protocols used by the player tracking unit, dimensions and layout of player tracking devices contained in the player tracking unit, connection schemes and mounting of the player tracking unit to the gaming machine, vary from manufacturer to manufacturer. Thus, to illustrate differences among player tracking systems manufactured by different companies and their impact gaming machine design and operation, the gaming machines, **100** and **101,** are described with representative features of different player tracking systems.

A first player tracking unit comprising, a device box **107** and slot machine interface board (SMIB) **103,** is mounted within the top box **117** on top the main cabinet **118** of the gaming machine **100** with a display **102.** On a video gaming machine, a player may view a game presentation on the display **102.** A second player tracking unit comprising, a device box **104** and SMIB **103,** is mounted the main cabinet **118** of the gaming machine **100.** Each player tracking unit utilizes a display, key pad and card reader enclosed within a device housing or chassis of some type, **104** and **107.** The devices incorporated in a player tracking unit may vary. Some player tracking units have only a display and a card reader with no key pad, others have a display, a card reader, a key pad and a bonus button, while others have a display, a card reader and a bonus button with no key pad.

Typically, the dimensions of the device housings, **104** and **107,** differ among manufacturers. For instance, the frontal area of housing **107** is smaller than **104.** Further, the player tracking devices in the device housings, **104** and **107,** may be of different sizes, which may affect the dimensions of the device housing such as the depth that the device housing extends into the gaming machine. Also, the layout of the player tracking devices within the device housings and the dimensions of each device may differ. For example, a key pad **115** is wider and longer than a key pad **114** and is located below a card reader **109** while the key pad **114** is located across from the card reader **108.**

Many other player tracking unit specifications are also variable. For instance, within each device housing, each of the player tracking devices may be attached to the device housing in a different manner which varies depending on the manufacturer of a particular tracking device. Further, different attachment means may be supplied with each device housing for attaching the player tracking unit to a gaming machine which also varies from manufacturer to manufacturer. Also, connection schemes (e.g. pin connectors), cabling and power requirements supplied with each player tracking unit may vary from manufacturer to manufacturer.

Many player tracking units include a separate slot machine interface board (SMIB), such as **103** and **106,** which may be mounted in a location within the gaming machine which is separate from the device housings, **104** and **107.** For instance, in gaming machine **100,** the SMIB **106** is mounted within the top box **117** opposite the device housing **107** and in gaming machine **101,** the SMIB **103** is mounted within the main cabinet **118** below the device housing **104.** Like the device housings, **104** and **107,** the dimensions of the SMIBs, **103** and **106,** physical attachments and connection schemes, cabling and power requirements may vary depending on the manufacturer of the SMIB.

The SMIBs, **103** and **106,** are used to collect game usage information from the gaming machine (e.g. **100** or **101)** which is transmitted to a player tracking/accounting server such as **120** and **121** using a network interface of some type such as the main communication board **110.** Via the network interface, the SMIB's may communicate with a data collection unit **116.** Each data collection unit (DCU) **116** may be connected to as many as thirty two different SMIBs where each SMIB resides on a different gaming machine. The DCU's consolidate the information gathered from the SMIBs connected to the DCU **116** and forward the information to a player tracking account server such as **120** or **121.**

Each type of player tracking/accounting server **120** and **121** and associated player tracking unit may utilize a different communication protocol to communicate game usage information and player tracking information collected by its associated SMIB over the network interface. For instance. player trackinglaccounting server **120** and SMIB **103** may use a Slot Accounting System (SAS) protocol provided by IGT (Reno, Nev.) to communicate game usage information while player trackinglaccounting server **121** and SMIB **106** may use a Slot Data System (SDS) protocol provided by Bally gaming systems (Las Vegas, Nev.).

To collect gaming information from a gaming machine, the player tracking unit may poll the gaming machine for information. For example, the player tracking unit **120** may poll the master gaming controller **125** to determine how much money the game player has wagered on each game, the time when each game was initiated and the location of the gaming machine. The master gaming controller **104** replies to the information requests from the player tracking unit with the requested gaming information. To the master gaming controller **104,** the player tracking unit is a black box. Thus, the master gaming controller does not operate the player tracking unit in any manner. For instance, the master gaming controller does not communicate with or may not send commands to the devices residing in the player tracking unit such as the card readers, **108** and **109,** the displays, **112** and **113,** or the key pad, **114** and **115.**

For gaming machine operators and gaming machine manufacturers, a number of disadvantages arise from the lack of standardization among player tracking units. A first disadvantage is that the variations of the player tracking units from manufacturer to manufacturer add to the complexity of the design of the gaming machine. Currently, there are at least 19 different companies that manufacturer player tracking units that may be mounted in a gaming machine. Typically, as described above, each of these companies use different hardware and different communication protocols to design the player tracking unit.

To accommodate gaming machine operators with different player tracking requirements, gaming machine manufacturers design their gaming machines to accommodate as many types of player tracking units as possible. To accommodate player tracking units from different manufacturers custom parts may have to be designed. For instance, custom mounting brackets within the gaming machine **100** may be needed that can accommodate different player tracking mounting hardware from each of the 19 manufacturers of player tracking units. Gathering the information needed to design a particular mounting bracket, designing the part and then repeating it for each manufacture requires significant resources.

The variation in player tracking units impact gaming machine design in other ways. For instance, the gaming machine components within the gaming machine are packaged to allow room for player tracking units and/or data collection units with widely varying dimensions which complicates the design of the gaming machine. As yet another example, the frontal area of each housing is covered with a decorative faceplate consistent with a decorative theme of the particular gaming machine. Thus, a decorative face plate must be designed for each gaming machine that is consistent with the layout, dimensions and mounting requirements for each type of player tracking unit. Often to satisfy the requirements of a particular player tracking unit, a custom installation kit is designed. At the operating location of the casino, the gaming machine operator may install the player tracking units into an assembled gaming machine using the installation kit which adds to the cost of purchasing and installing the gaming machine.

A second disadvantage of current player tracking units is a limited communication capability. Typically, as described above, player tracking units communicate in only one fixed communication protocol to a player tracking accounting server where the communication protocols used by each player tracking unit tend to vary according to the manufacturer of the player tracking unit. Network gaming services, which require communicating ever larger amounts of information, are becoming increasingly important in the gaming industry. The limited communication capabilities of current player tracking units make it difficult for a gaming machine operator to upgrade player tracking services. For instance, to upgrade the communication protocol on an existing player tracking server or to utilize a new player tracking server that utilizes a more efficient communication protocol to transfer gaming information, a casino operator might have to replace expensive player tracking units in all of its gaming machines to enable communications with the new player tracking server. When completed, only one model of many would have the enhanced capability and the same effort would need to be repeated for many various models of player tracking units.

A third disadvantage of separate hardware player tracking units is that the devices utilized by the player tracking unit, such as the displays, **112** and **113,** the key pads, **114** and **115,** and card readers, **108** and **109,** are not accessible to the master gaming controllers, **104,** within the gaming machines. **100** and **101.** Thus. for examyle, the master gaming cbntroller can not use the card reader (e.g. **108** or **109)** for other gaming applications requiring a card reader. Therefore, if a gaming application executed on the gaming machine requires a card reader, a second card reader may has to be installed on the gaming machine. Since one card reader may be sufficient for use in multiple gaming applications, the installation of a second card reader may be very inefficient.

In view of the above, it would be desirable to provide a less expensive, less complicated and more efficient methods and apparatus of providing player tracking services for a gaming machine.

SUMMARY OF THE INVENTION

This invention addresses the needs indicated above by providing a player tracking unit with a memory arranged to store a plurality of different communication protocols allowing the player tracking unit to communicate with a plurality of different types of gaming machines and a plurality of different types of player tracking servers. The software on the player tracking unit may be designed or configured to accommodate new player tracking features such as new

communication protocols. The player tracking unit may contain many different types of player tracking peripheral devices such as card readers, key pads, displays, bonus buttons and biometric input mechanisms. The peripheral devices contained in the player tracking unit may be accessible to the master gaming controller on a gaming machine and may be utilized by the master gaming controller for other gaming applications. The player tracking units may use standard components allowing the player tracking unit to fit in many different types of gaming machines with minimal modifications to the player tracking unit or the gaming machine.

One aspect of the present invention provides a player tracking unit. The player tracking unit may be generally characterized as including: 1) one or more of the following peripheral devices: a card reader, a display, a key pad, a bonus button and a biometric input device; 2) a logic device designed or configured a) to collect player tracking information from the peripheral devices, b) to collect accounting information from a master gaming controller on a gaming machine and c) to send the player tracking information and the accounting information to a player tracking server; and 3) a memory arranged to store a plurality of different communication protocols allowing the logic device to communicate with a plurality of different types of gaming machines using different communication protocols to communicate with the player tracking unit and a plurality of different types of player tracking servers using different communication protocols to communicate with the player tracking unit. The memory may be also arranged to store a plurality of device drivers for each type of peripheral device.

In particular embodiments, the player tracking unit may employ a standard housing for enclosing the logic device and the peripheral devices which is designed or configured to fit in one of a plurality of different types of gaming machines where the standard housing may conform to at least one of standard dimensions and a standard layout of the peripheral devices. The player tracking unit may also employ a number of different standard mounting means designed or configured to mount a) one of a plurality of different types of card readers in the player tracking unit b) one of a plurality of different types of displays in the player tracking unit and c) one of a plurality of different types of key pads in the player tracking unit. In addition, a standard device housing which is separate from the logic device housing and which is designed or configured to fit in one of a plurality of different types of gaming machines and enclose the one or more peripheral devices, may be used for the player tracking unit where the standard device housing conforms to at least one of standard dimensions and a standard layout for the peripheral devices. Further, a standard logic device housing which is separate from the logic device housing and which is designed or configured to fit in one of a plurality of different types of gaming machines and enclose the logic device, may be used for the player tracking unit.

In particular embodiments, the player tracking unit may also include a) a network interface where the network interface is a wireless interface or a wired interface and b) a firewall. The card reader may be designed or configured to read a smart card or write to the smart card and the biometric input device may be a finger print device. Further, the logic device may be a microcontroller or a microprocessor.

In a specific embodiment, the player tracking unit may include a peripheral communications connection where the logic device is designed or configured to communicate with the master gaming controller via the peripheral communication connection using a standard communication protocol where the standard communication protocol may be USB. Further, the logic device may be designed or configured to receive from the master gaming controller operation instructions for one or more peripheral devices. The player tracking unit may also include a hub connected to the peripheral communications connection and containing a plurality of peripheral communications connections.

Another aspect of the present invention provides a gaming machine with a player tracking unit. The gaming machine may be generally characterized as including **1)** a master gaming controller designed or configured to control one or more games on the gaming machine and 2) a player tracking unit comprising; a) one or more of the following peripheral devices: a card reader, a display, a key pad, a bonus button and a biometric input device; b) a logic device, separate from the master gaming controller, designed or configured to collect player tracking information from the peripheral devices, to collect accounting information from a master gaming controller on a gaming machine and send the player tracking information and the accounting information to a player tracking server; and c) a memory arranged to store a plurality of different communication protocols allowing the logic device to communicate with a plurality of different types of gaming machines and a plurality of different types of player tracking servers. The game controlled by the master gaming controller may be a video bingo game, a video lottery game, a video black jack game, a video slot game, a mechanical slot game, a video poker game, a video keno game, a video pachinko game, a video game of chance and a video card game. Further, the gaming machine may include mounting means designed to mount a player tracking unit enclosed in a standard housing.

In particular embodiments, the master gaming controller may include a memory arranged to store software that allows the master gaming controller to detect gaming events on the one or more peripheral devices and the logic on the player tracking unit may be designed or configured to receive instructions from the master gaming controller controlling the operation of one or more of the peripheral devices. The gaming machine may also include a peripheral communication connection. Thus, the master gaming controller may include a memory arranged to store software for a communication protocol that allows communication with the player tracking unit via the peripheral communication connection where the communication protocol is USB.

Another aspect of the present invention provides a player tracking gaming peripheral. The player tracking gaming peripheral may be characterized as including: 1) a peripheral communication connection; and 2) a peripheral controller configured or designed to control communications with a master gaming controller in a gaming machine and to receive instructions from the master gaming controller for one or more of the following peripheral devices: a card reader, a display, a key pad, a bonus button and a biometric input device where the instructions from the master gaming controller allow the player tracking gaming peripheral to operate on player tracking events.

In particular embodiments, the player tracking gaming peripheral may include one or more of the following: a) a peripheral interface that directly connects to the one or more peripheral devices, b) hub connected to the peripheral communications connection and containing a plurality of peripheral communications connections, c) a standard housing for the player tracking gaming peripheral designed or configured to fit in one of a plurality of different types of gaming machines wherein the standard housing conforms to at least

one of standard dimensions and a standard layout of the peripheral devices, d) a standard mounting means designed or configured to mount one of a plurality of different types of card readers in the player tracking gaming peripheral, e) a standard mounting means designed or configured to mount one of a plurality of different types of displays in the player tracking gaming peripheral and f) a standard mounting means designed or configured to mount one of a plurality of different types of key pads in the player tracking gaming peripheral.

In other embodiments, the peripheral controller may include one or more of the following: 1) a control microprocessor, separate from the master gaming controller, designed or configured to communicate over the peripheral communications connection, 2) a non-volatile memory arranged to store at least one of i) configuration parameters specific to the player tracking gaming peripheral and ii) state history information of the player tracking gaming peripheral, 3) a non-volatile memory arranged to store operating code for the gaming peripheral, 4) a memory arranged to store a plurality of device drivers for each type of peripheral device and 5) a memory arranged to store software for a communication protocol that allows communication with the master gaming controller where the communication protocol may be USB.

Another aspect of the present invention provides a gaming machine with a player tracking gaming peripheral. The gaming machine may be generally characterized as including: 1) a master gaming controller designed or configured to control one or more games on the gaming machine; 2) a network interface for communicating with a player tracking server; and 3) a player tracking gaming peripheral, the player tracking gaming peripheral comprising; i) a peripheral communication connection; and ii) a peripheral controller configured or designed to control communications with the master gaming controller and to receive instructions from the master gaming controller for one or more of the following peripheral devices: a card reader, a display, a key pad, a bonus button and a biometric input device wherein the instructions from the master gaming controller allow the player tracking gaming peripheral to operate on player tracking events. In specific embodiments, the gaming machine may include mounting means designed to mount a player tracking gaming peripheral enclosed in a standard housing and the game controlled by the master gaming controller may be a video bingo game, a video lottery game, a video black jack game, a video slot game, a mechanical slot game, a video poker game, a video keno game, a video pachinko game, a video game of chance and a video card game.

In particular embodiments, the master gaming controller may include one or more of the following: a) a memory arranged to store software for a standard device identification protocol for the player tracking gaming peripheral and the one or more peripheral devices, b) a memory arranged to store a plurality of device drivers for at least some of each different type of peripheral device, c) software that allows the master gaming controller to detect gaming events on the one or more peripheral devices where the gaming event is a player tracking event, d) software for a communication protocol that allows communication with the player tracking gaming peripheral via the peripheral communication connection where the communication protocol is USB and e) a plurality of different types of communication protocols allowing the gaming machine to communicate with a plurality of different types of player tracking servers. The master gaming controller may be designed or configured to send player tracking information and accounting information using the network interface to the player tracking server to receive player tracking information from the player tracking server using the network interface where the network interface is a wireless interface or a wired interface.

Another aspect of the present invention provides a method of initializing a player tracking unit on a gaming machine. The method may be generally characterized as including: 1) establishing communications with a player tracking server; 2) loading a player tracking protocol for communicating with the player tracking server from among a plurality of different player tracking protocols; 3) establishing communications with a master gaming controller on a gaming machine; 4) loading a gaming machine protocol for communicating with a master gaming controller on the gaming machine from among a plurality of different gaming machine protocols; and 5) performing one or more player tracking functions. In addition, the method may include one or more of the following: a) sending the gaming information to the player tracking server, b) determining the player tracking server type, c) determining the gaming machine type and d) determining one or more peripheral device types.

Another aspect of the present invention provides a method of designing and producing a player tracking unit for installation in a gaming machine. The method may be generally characterized as including 1) identifying one or more components to be included in the player tracking unit; 2) defining a housing for the player tracking unit, which housing is designed having dimensions conforming to dimensions specified in a standard for player tracking units in gaming machines; and 3) producing the player tracking unit having the defined housing and one or more components where the player tracking unit may be an after market unit for the gaming machine. In addition, the method may include defining an arrangement of the one or more components with respect to one another in housing, wherein the arrangement conforms to said standard for player tracking units in gaming machines.

These and other features of the present invention will be presented in more detail in the following detailed description of the invention and the associated figures.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a block diagram of gaming machines with player tracking units connected to two servers providing player tracking/accounting services.

FIG. 2 is a block diagram of gaming machines with player tracking units of the present invention connected to a player tracking/accounting server.

FIG. **3** is a block diagram of player tracking unit of the present invention connected to a master gaming controller on a gaming machine and a player tracking server.

FIG. **4** is a block diagram of a player tracking peripheral controller connected to a master gaming controller on a gaming machine and a plurality of player tracking devices.

FIGS. **5**A–C are front and perspective diagrams of a player tracking unit of the present invention.

FIG. **5**D is a mounting system for attaching a card reader to a player tracking unit of the present invention.

FIG. **6** is perspective drawing of a gaming machine with a player tracking unit of the present invention.

FIG. 7 is a flow chart depicting a method for initializing a gaming machine with a player tracking unit of the present invention.

FIG. **8** is a flow chart depicting a method for of designing and producing a player tracking unit for installation in a gaming machine.

FIG. **9** is a flow chart depicting a method of configuring a player tracking unit from a remote server.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

FIG. **2** is a block diagram of gaming machines with embodiments of player tracking units of the present invention connected to a player tracking/accounting server. A player tracking unit, **230**, is located within a top box **209** mounted on gaming machines. Aplayer tracking unit **235** is located within a main cabinet of gaming machine **201.** A player tracking unit **240** is mounted on a side of a main cabinet of gaming machine **202**. The gaming machines **200**, **201** and **202** each contain a display **202**, a master gaming controller **204** and a main communication board **210.** The main communication board **210** provides an interface between a SMIB **206** or a peripheral controller **207** and the master gaming controller **204**. Also, the main communication board provides an interface between the SMIB **206** or the peripheral controller **207** and a data collection unit **222** connected to a player tracking/accounting server **220** which provides player tracking and accounting services to each of the gaming machines, **200**, **201** and **202**. The operation of the player tracking units in the context of game play on the gaming machines is described with reference to FIG. **6**.

In FIG. **2**, the player tracking units **230**, **235** and **240** communicate with the master gaming controller **204** and the data control unit **222** connected to the player tracking server **220** via the main communication board **210**. The present invention may be employed with many different connection schemes between the player tracking unit, master gaming controller, data collection unit and player tracking/accounting server and is not limited to the example shown in FIG. **2**. For instance, the player tracking unit **230** may be directly connected to the master gaming controller **204** bypassing the main communication board **210**. In another example, the player tracking unit **230** may be connected directly to a master gaming controller **204** and directly to a data collection unit **222** without using a main communication board **210.** In addition, other data collection elements (not shown) such as a translator may be used to gather player tracking information from the gaming machines.

The master gaming controllers, **204,** control one or more games played on the gaming machine that are displayed on display **202.** The gaming machines that may use the player tracking units of the present invention are not limited to video gaming machines and may be used with many types of pre-existing and future gaming machines. For instance, the gaming machines may be upright gaming machines, slant top gaming machines and bar top gaming machines providing video games of chance, mechanical slot games and combinations of video and mechanical games as well as bonus games. Games that may be played on the gaming machine with a player tracking unit of the present invention include a video bingo game, a video lottery game, a video black jack game, a video slot game, a mechanical slot game, a video poker game, a video keno game and a video pachinko game. The gaming machines may or may not include top boxes. For example, the player tracking units, **230** and **240**, are located within top boxes, **209**, mounted on top of gaming machines **200** and **202** while the player tracking unit **235** is located within the main cabinet of gaming machine **201.**

The player tracking units, **230,235** and **240,** each include three player tracking devices, a card reader **208,** a display **212** and key pad **214.** The card reader **208** may read or write to smart cards and/or read to magnetic striped cards. The player tracking units may incorporate other types of gaming devices such as bonus buttons, lighted displays, lights, sound devices (e.g. speakers), and biometric input devices. For instance, the biometric input device may be a finger print reader, a microphone or a retina scanner. The microphone and speakers may also be used for voice recognition applications,

The player tracking units are not limited to these gaming devices and many different combinations of player tracking devices using many different types of player tracking devices may be used with the player tracking units of the present invention. For example, on some gaming machines, the display screen **202** may be used to input player tracking information and the display **212** and key pad **214** may be eliminated. A detailed description of an embodiment of a player tracking unit using a touch screen on the gaming machine to enter player tracking information is described in co-pending U.S. patent application Ser. No. 09/642,192 entitled GAMING MACHINE VIRTUAL PLAYER TRACKING AND RELATED SERVICES, filed Aug. 18, 2000 which is incorporated herein in its entirety and for all purposes.

The device logic for performing player functions may be distributed between the player tracking unit and the master gaming controller on the gaming machine. Therefore, a logic device within the player tracking unit, such as microcontroller or a microprocessor, may execute player tracking software for some or all of player tracking functions available on the player tracking unit. Some examples of player tracking functions may include 1) communicating with a player tracking/accounting server, 2) polling a gaming machine for game usage information, 3) operating player tracking devices such as the card reader **208** and 4) sending information to the player tracking devices (e.g. displaying a message on display **212** or writing information to a smart card inserted in card reader **207).** For current player tracking units, a logic device within the player tracking unit which is separate from the master gaming controller on the gaming machine, typically executes player tracking software enabling all of the player tracking functions available on the player tracking unit. Thus, when player tracking units of the present invention are installed in an older gaming machine, all of the player tracking functions may be executed by a logic device within the player tracking unit such as the SMIB **206** or the peripheral controller **207.** However, on newer gaming machines or modified older gaming machines, the player tracking functions may be distributed between logic devices located on the player tracking unit, master gaming controller or even external gaming devices such as a smart card. A few embodiments of logic devices of the present invention are described with reference to FIGS. **3** and **4.**

On newer gaming machines, the master gaming controller may be configured to perform some or all of the player tracking functions. For example, the gaming machines, such as **200,201** and **202**, may transmit game usage information directly to the player tracking server **220** via the main communication board **210** bypassing the player tracking units, **230,235** and **240.** In this example, the player tracking unit may disable polling capabilities available on the player tracking unit when this player tracking function is performed by the master gaming controller on the gaming machine. In one embodiment, when the player tracking unit is initialized, it may automatically configure itself with a particular set of player tracking functions after contacting the master gaming controller on the gaming machine and/or a remote server

such as a player trackinglaccounting server. In another embodiment, the player tracking unit may configure itself by reading a configuration file stored in a memory location on the player tracking unit. The player tracking unit may also be configured by a gaming machine operator. When all of the player functions are performed by the master gaming controller 204, the player tracking devices such as the card reader 208, the display 212 and the key pad 214 may be operated in a manner similar to other gaming devices connected to a gaming machine such as bill validators, lights, input buttons, displays, etc.

For the player tracking units **230**, **235** and **240**, a logic device in each player tracking unit may be configured to perform a number of player tracking functions. For instance, the SMIBs, 206, which contain a logic device, may allow the player tracking units to collect player tracking information from the player tracking peripheral devices (e.g. the card reader 208, the display 212, and the key pad **214**), 2) collect gaming information such as game usage information from a master gaming controller on the gaming machine, 3) to send player tracking player tracking information to a remote player trackinglaccounting server (e.g. 220) and 4) sending information to the player tracking devices (e.g. displaying a message on display 212 or writing information to a smart card inserted in card reader 207). Further, each player tracking unit may contain a memory arranged to store a) a plurality of different communication protocols for communicating with master gaming controllers on different types of gaming machines, b) a plurality of different communication protocols to communicate with different types of player trackinglaccounting servers and c) a plurality of different device drivers allowing logic device to communicate with various types of player tracking devices as well as to operate these devices.

As an example, a memory on the player tracking units (e.g. 230,235 and 240) may store or may be easily updated to store a first communication protocol for a first type of player tracking server manufactured IGT (Reno, Nev.), a second communication protocol for a second type of player tracking server manufactured by Bally Gaming systems (Las Vegas, Nev.) and a third communication protocol for a third type of player tracking server manufactured by Acres gaming (Las Vegas, Nev.). Thus, in this example, the player tracking units, 230, 235,240, of the present invention, may be configured to communicate with the three types of player tracking servers above, as well as many other types of player tracking servers without replacing the player tracking hardware. Therefore, a player tracking unit with a memory storing communication protocols for different types of gaming machines may be installed in a gaming machine in a first casino using a first type of player tracking server or in a gaming machine in a second casino using a second type of player tracking server. An advantage of player tracking units that may communicate with many types of player tracking servers is that a gaming machine operator, maintaining a number of gaming machines connected to a particular type of player tracking server, may change the type of player tracking server by reconfiguring software on each of the player tracking units and avoid replacing all of the player tracking hardware units in each gaming machine.

As another example, a memory on the player tracking units (e.g. 230, 235 and 240) may store or may be easily updated to store communication protocols allowing the player tracking to communicate with master gaming controllers on a number of different types of gaming machines such as gaming machine manufactured by IGT, Bally gaming systems and Acres gaming. Thus, each player tracking units may be configured to operate with a particular type of gaming machines by loading a communication protocol from the memory allowing the player tracking unit to communicate with the master gaming controller of the particular type of gaming machine. In addition to changing the communication protocol software to install the player tracking unit in different types of gaming machines, connection hardware, such as cabling and pin connectors, in the player tracking unit may have to be modified to enable communications between the master gaming controller and the player tracking units. In some embodiments of the present invention, a standard communication connection and communication is employed in the player tracking unit to simplify the connection process. An example of a standard connection scheme and communication protocol for a gaming machine such as USB is described U.S. patent application Ser. No. 09/414,659 entitled STANDARD PERIPHERAL COMMUNICATION, filed Oct. 6, 1999 which is incorporated in its entirety and for all purposes. In addition, some details of a standard connection scheme and standard communication protocol are described with respect to FIG. **4**.

In one embodiment of the present invention, generic application program interfaces (API) necessary for a player tracking server, such as 220, to communicate and operate with a player tracking unit, such as 230,235 and 240 or other gaming devices performing player tracking functions to communicate and operate with one another may be used. API's let application programmers use functions of a computer and an operating system without having to directly keep track of all the details in the CPU's operation. Typically, the API's describe all of key transactions and associated processing necessary to perform a particular function. For example, player tracking functions such as polling of gaming machine for accounting information may be described as part of one or more generic player tracking APIs. An API may be considered analogous to a device driver in that it provides a way for an application to use a hardware subsystem without having to know every detail of the hardware's operation.

A generic mark-up language may be used to describe player tracking APIs and player tracking transaction definitions involving two or more of the logic devices in a gaming system performing player tracking functions. For instance, logic devices used to perform player tracking functions in the gaming system may be located in the player tracking unit (e.g. 230, 235, **240**), in the master gaming controller of a gaming machine (e.g. **204**), in the player tracking server (e.g. 204) as well as in associated peripheral devices such as but not limited to a card reader (e.g. **208**), a personal digital assistant, a cell phone or a smart card. Amark-up language may be used to describe each transaction to and from the player tracking unit and to and from the player tracking server according to the API's for each device. Further, the mark-up language may be extended to describe transactions between a plurality of logic devices performing player tracking functions according to the API's for each logic device such as but not limited to between: 1) a smart card and a player tracking server, 2) a smart card and a player tracking unit, 3) a personal digital assistant and player tracking server, 4) a personal digital assistant and player tracking unit, 5) a master gaming controller and a player tracking unit, 6) a master gaming controller and a player tracking server, etc.

In general, a mark-up language may be used to add instructions to information content that tells a device receiving the information content what to do with the information

content. For example, the mark-up language may specify a format for displaying information content when it is received by a gaming device. Hyper text mark-up language (HTML) is one example of a mark-up language. Other examples of mark-up languages that may be used with the present invention, include but are not limited to XML (extensible markup language), Wireless Mark-up Language (WML), and hand-held device markup language (HDML). Multiple mark-up languages may be used in a gaming system to define different player tracking APIs. For instance, XML may be used to communicate with certain gaming devices, such as player tracking units, while HDML may be used to communicate with other gaming devices such as personal digital assistants or other hand held devices.

An advantage of using a mark-up language to describe one or more player tracking application program interfaces is that it may allow outside vendors to develop player tracking software. In the past, player tracking software and player tracking protocols have been typically kept proprietary. The proprietary nature of the software and protocols makes it difficult for outside software vendors to develop player tracking applications.

In one embodiment of the present invention, portions of the player tracking software may designed to be executed on different types of logic devices performing player tracking functions. For example, the player tracking software may include but is not limited to an operating system, one or more application program interfaces, one or more player tracking communication protocols and a plurality of player tracking applications. The player tracking software may designed to allow a player tracking unit such as **230** or **235** or the master gaming controller **204** to execute an essentially identical set of player tracking software components including the operating system, communication protocols, application program interfaces and player tracking applications. All of the player tracking software components do not have to be compatible with a plurality of different logic devices. Some of the player tracking software components may be logic device specific. For instance, in some embodiments, two different logic devices performing player tracking functions such as a logic device on the player tracking unit **230** and the master gaming controller **204** may execute the same player tracking software applications using two different operating systems.

Traditionally, the communication between the player tracking unit and the master gaming controller has been to allow the player tracking unit to poll the master gaming controller for game usage information and to receive game usage information from the master gaming controller. However, in the past, the master gaming controller has not operated player tracking devices in the player tracking unit such as the card reader **208,** the display **212** and the key pad **214.** In the present invention, the communication interface between the master gaming controller and the player tracking unit may be configured to allow the master gaming controller to operate one or more of the player tracking devices. An advantage of this configuration is that the player tracking devices may be utilized to provide gaming services other than player tracking gaming services. For instance, the card reader **208** may be used with a magnetic striped card or a smart card as part of a cashless award system, to configure a gaming machine according to a player's preferences or as part of a bonusing system.

As another example, a memory within the player tracking units, such as **230, 235** and **240,** may also store a plurality of device drivers for different types of player tracking devices. For instance, device drivers for a plurality of card readers may be stored within the player tracking unit so that one type of card reader may be exchanged for another type of card reader in the player tracking unit with minimal modifications to the player tracking unit. **A** card reader may be replaced in the player tracking unit for a number of reasons such as for maintenance purposes (e.g. to replace a damaged card reader) or to upgrade the card reader.

The one or more memories within the player tracking units storing communication protocols and device drivers may be configured to allow additional communication protocols and device drivers to be added or modified. For example, the player tracking unit may contain a CD/DVD drive that reads a CD/DVD containing many different communication protocols and many different device drives. Thus, the communication protocols and device drivers may be modified by exchanging the CD/DVD within the drive. In another example, the memory may be a hard drive of some type containing the communication protocols and the device drivers. The communication protocols and device drivers on the hard drive may be updated via a communication interface of some type. For instance, a smart card inserted into a smart card reader in player tracking unit might be used to download new communication protocols and device drivers into the memory. **As** another example, new communication protocols and device drivers may be downloaded into the memory from the master gaming controller on the gaming machine.

For the player tracking units **230, 235** and **240,** logic devices for the player tracking units, such as the SMIB **206** and the peripheral controller **207,** are located within a device chassis or device housing which encloses the player tracking devices including the card reader **208,** the display **212** and the key pad **214. As** described with reference to FIG. **1,** the logic devices may be located within a separate logic device housing which is mounted separately from the device housing containing the player tracking devices including the card reader **208,** the display **212** and the key pad **214.** The logic device housing and the device housing may be configured with standard dimensions that allow the housings to be installed in many different types of gaming machines. In addition, the device housing dimensions and player tracking device dimensions may be selected such that the same device housing and player tracking devices may be used for a vertical or horizontal mounting of the player tracking units. For instance, player tracking unit **230** and **235** may utilize the substantially similar device housing and player tracking devices. An advantage of using device housing and player tracking devices conforming to standard dimensions is that manufacturing and installation costs for the player tracking units may be decreased. Another advantage is that the design of the gaming machine such as the packaging of the game components may be simplified when standard dimensions are used. Details of the device housing dimensions and device layouts are described with reference to FIGS. **5**A, **5**B, **5**C and **5**D.

FIG. **3** is a block diagram of an embodiment of a player tracking unit **300** of the present invention connected to a master gaming controller **204** on a gaming machine and a player tracking server **220.** The present invention is not limited to the player tracking network shown in the FIG. **3** and other possible elements of a player tracking network such as a data collection units (See FIG. **2)** and translators may also be used. The player tracking unit includes a logic device **310** enclosed in a logic device housing and a number of player tracking devices including a card reader **350,** a display **352,** a key pad **354** and other player tracking devices **356** enclosed in a device housing **311. As** described above,

the logic device **310** for the player tracking unit and the player tracking devices may be enclosed in a single housing (see FIGS. **5**A–**5**D) or separate housings.

The logic device **310** may include a processor for executing software allowing the player tracking unit to perform various player tracking functions such as communicating with the player tracking server **220,** communicating with the master gaming controller **204** or operating the various peripheral devices such as the card reader **350,** the display **352,** the key pad **354** and the bonus button **355.** For instance, the logic device **310** may send messages containing player tracking information to the display **352.** The logic device **310** may utilize a microprocessor or a microcontroller. In one embodiment, application software for the player tracking unit **300** and configuration information for the player tracking unit may be stored in a memory device such as an EPROM **308,** a non-volatile memory, hard drive or a flash memory.

The player tracking unit may include a memory **316** configured to store: 1) player tracking software **314** such as data collection software, 2) player tracking protocols (e.g. **320, 322, 324)** allowing the player tracking unit **300** to communicate with different types of player tracking servers, 3) device drivers for many types of player tracking devices (e.g. **330** and **332)** and 4) communication protocols (e.g. **340** and **342)** such as TCP/IP allowing the player tracking unit to communicate with devices using these protocols or communication protocols allowing the logic device to communicate with different types of master gaming controllers (e.g. master gaming controllers using different types of communication protocols), such as **204.** Typically, the master gaming controller, such as **204,** communicates using a serial communication protocol. A few examples of serial communication protocols that may be used to communicate with the master gaming controller include but are not limited to USB, RS-232 and Netplex (a proprietary protocol developed by IGT, Reno, Nev.).

Aplurality of device drivers may be stored in memory **316** for each type of player tracking device. For example, device drivers for five different types of card readers, six different types of displays and *8* different types of key pads may be stored in the memory **316.** When one type of a particular peripheral device is exchanged for another type of the particular device, a new device driver may be loaded from the memory **316** by the processor **302** to allow communication with the device. For instance, one type of card reader in the player tracking unit **300** may be replaced with a second type of card reader where device drivers for both card readers are stored in the memory **316.**

In some embodiments, the software units stored in the memory **316** may be upgraded as needed. For instance, when the memory **316** is a hard drive, new device drivers or new communication protocols may be uploaded to the memory from the master gaming controller **204,** the player tracking server **220** or from some other external device. As another example, when the memory **316** is a CDDVD drive containing a CDDVD designed or configured to store the player tracking software **314,** the device drivers and other communication protocols, the software stored in the memory may be upgraded by replacing a first CD/DVD with a second CDDVD. In yet another example, when the memory **316** uses one or more flash memory units designed or configured to store the player tracking software **314,** the device drivers and other communication protocols, the software stored in the flash memory units may be upgraded by replacing one or more flash memory units with new flash memory units storing the upgraded software.

In one embodiment of the present invention, a minimal set of player tracking software applications **314,** communication protocols **340,** player tracking communication protocols and device drivers may be stored on in the memory **316.** For instance, an operating system, a communication protocol allowing the player tracking unit **300** to communicate with a remote server such as the player tracking server **220** and one or more common player tracking applications may be stored in memory **316.** When the player tracking unit is powered-up, the player tracking unit **300** may contact a remote server **220** and download specific player tracking software from the remote software. The downloaded software may include but is not limited to one or more particular player tracking applications that are supported by the remote server, particular device drivers, player tracking software upgrades, and a particular communication protocol supported by the remote server. A method of downloading player tracking software from a remote server to a player tracking unit is described in more detail with respect to FIG. **9**.

As described with reference to FIG. **2,** in some embodiments, the player tracking functions may be implemented by both the logic device **310** and the master gaming controller **204.** Thus, player tracking software such as the player tracking protocols may be stored on a memory located on the gaming machine which is separate from the player tracking unit. In some embodiments, the player tracking software stored on the memory on the gaming machine may be executed by the master gaming controller **204** on the gaming machine in other embodiments, the player tracking software stored on the memory on the gaming machine may be executed by the logic device **310** on the player tracking unit.

The logic device **310** includes a network interface board **306** configured or designed to allow communication between the player tracking unit **300** and other remote devices such as the player tracking server residing on local area networks such as a casino area network or a wide area network such as the Internet. The network interface board **306** may allow wireless or wired communication with the remote devices. The network interface board may be connected to a firewall **312.** The firewall may be hardware, software or combinations of both that prevent illegal access of the gaming machine by an outside entity connected to the gaming machine. The internal firewall is designed to prevent someone such as a hacker from gaining illegal access to the player tracking unit or gaming machine and tampering with it in some manner. For instance, an illegal access may be an attempt to plant a program in the player tracking unit that alters the operation of the gaming machine allowing it to perform an unintended function.

The communication board **304** may be configured to allow communication between the logic device **310** and the player tracking devices including **350, 352, 354, 355** and **356** and to allow communication between the logic device **310** and the master gaming controller **204.** The communication between the player tracking unit **300** and 1) the player tracking devices, 2) the master gaming controller **204**, 3) the player tracking server **220** and 4) any other external or internal gaming devices may be encrypted. In one embodiment, the logic device **310** may poll the player tracking devices for information. For instance, the logic device **310** may poll the card reader **350** to determine when a card has been inserted into the card reader or may poll the bonus button to determine when the bonus button **355** has been depressed. In some embodiments, the player tracking devices may contact the logic device **310** when a player

tracking event such as a card being inserted into the card reader has occurred.

The logic device **310** may poll the master gaming controller **204** for game usage information. For instance, the logic device may send a message to the master gaming controller **204** such as "coin-in". The master gaming controller may respond to the "coin-in" message with an amount when credits are registered on the gaming machine.

The logic device **310**, using an appropriate device driver, may send instructions to the various player tracking devices to perform specific operations. For instance, after a card has been inserted into the card reader **352**, the processor logic device may send a "read card" instruction to the card reader and a "display message A" instruction to the display **352**. In addition, the logic device **310** may be configured to allow the master gaming controller **204** to send instructions to the player tracking devices via the logic device **310**. As an example, after a card has been inserted into the card reader **352**, the processor logic **310** may determine that the card is for a gaming application controlled by the master gaming controller **204** and send a message to the master gaming controller **204** indicating a card has been inserted into the card reader. In response, to the message from the logic device, the master gaming controller **204** may send a series of commands to the player tracking devices such as a "read card" instruction to the card reader **350** and a "display message" instruction to the display **352** via the logic device **310**. The instructions from the master gaming controller to the player tracking devices may be obtained from gaming application software executed by the master gaming controller **204**. The gaming application software may or may not be related to player tracking services.

The player tracking unit **300** may include one or more standard peripheral communication connections (not shown). These connections are described in more detail with respect to FIG. **4**. The logic device **310** may be designed or configured to communicate with the master gaming controller **204** using a standard peripheral connection using a standard communication protocol such as USB. The USB standard allows for a number of standard USB connectors that may be used with the present invention. The player tracking unit **300** may contain a hub (see FIG. **4**) connected to the peripheral communication connection and containing a plurality of peripheral communication connections.

FIG. **4** is a block diagram of a player tracking peripheral controller **434** connected to a master gaming controller **204** on a gaming machine and connected to a plurality of player tracking devices for one embodiment of the present invention. The peripheral controller **434** is one embodiment of a logic device that allows the master gaming controller to operate the player tracking peripheral devices such as the card reader **350,** the display **352,** the key pad **354** and the bonus button **355.** In one embodiment, the peripheral controller **434** may be integrated into the logic device **310**, as described with reference to FIG. **3.** The peripheral controller **434** may be enclosed in a standard housing as described with reference to FIGS. **5**A–**5**D.

The master gaming controller **204** is connected to the hub **430,** which includes standard communication connections on the gaming peripheral. The peripheral controller **434** is connected to the hub **430** using a peripheral connection **400.** The peripheral connection **400** is connected to a transient and surge protector **404.** The transient and surge protector **404** protects the peripheral controller from signals arriving on the peripheral connections, which might damage a logic device such as a control microprocessor **412.**

Power from the master gaming controller **204** is transmitted to a power conversion unit **402.** The power conversion unit **402** converts the voltage arriving from the master gaming controller **204** to voltages needed for the control microprocessor **412** of the peripheral controller **434** or any of the peripheral devices connected to the peripheral controller **434** including but not limited to the card reader **350,** the display **352,** the key pad **354** or the bonus button **355.** The peripheral devices may also receive power directly from the power supply unit (not shown) with or without using the power conversion unit **402**. The power supply unit is usually contained within the main cabinet of the gaming machine.

Hardware needed to connect the peripheral controller **434** to a specific peripheral device is located in the peripheral interface **418**. At least one or more peripheral devices are connected to the peripheral interface **418.** These peripheral devices may include various player tracking devices such as the card reader **350,** the display **352,** the key pad **354,** bonus button **355** and biometric devices (not shown). The configuration of the peripheral controller **434,** which includes information about the types of peripheral devices controlled by the peripheral controller **434,** may be stored in a non-volatile memory **416**. When the peripheral devices on a gaming peripheral are changed, the non-volatile memory **416** can be replaced or reprogrammed to incorporate the new configuration.

The peripheral controller contains a control microprocessor **412** that controls communication with the master gaming controller **200.** Further, the control microprocessor **412** may convert high-level instructions from the master gaming controller **204** requesting specific operations from the peripheral devices controlled by the peripheral controller **434** to low-level instructions needed to perform the operation. The low-level instructions required to operate a specific peripheral device may be stored in device drivers stored in a memory on the peripheral controller **434**. In another embodiment, the master gaming controller may send low-level instructions directly to the player tracking peripheral devices. The control microprocessor **412** includes a fixed memory **410,** a volatile memory **408,** a timer **414,** a fail-safe **415,** and a master controller communication **406.** In other embodiments, either the fixed memory **410** or the volatile memory **408** or both may be located outside of the control microprocessor.

The volatile memory **408** and fixed memory **410** may be upgraded using the volatile memory expansion **409** and the fixed memory expansion **411.** The fixed memory expansion **411** might be in the form of an EPROM or flash memory. When flash memory is used, it may be possible to field upgrade the operating code of the peripheral controller. The volatile memory expansion **409** might be in the form of static RAM, which uses a long-life battery to protect the memory contents when power is removed.

Within the control microprocessor **412**, the master controller communication **406** controls the communication between the peripheral controller **434** and the master gaming controller **204**. The control microprocessor may be an off-the-shelf device including an Infineon Technologies **AG** (Munich, Germany) C541U family of microcontrollers. The master controller communication **406** performs the communication using a standard communication protocol. Essentially, it implements the protocol associated with a standard communications protocol such as USB, IEEE1394, or the like. The master gaming controller **204** stores software allowing it to communicate in the standard communication protocol used by the peripheral controller **434.** The timer **414** sends signals to the control microprocessor **412,** which

controls execution of code. The fail-safe 415 contains code, which is independent of the code in the control microprocessor 412. When code within the control microprocessor 412 is lost or malfunctions, the fail safe 415 will reset the entire gaming peripheral. As an example, the fail safe **415** might expect a message from the control microprocessor 412, which includes "do not reset." When the fail safe 415 receives this message, the fail safe 415 will wait a specified interval for the next "do not reset" message. When the fail safe 415 does not receive a message including "do not reset" after a specified interval, the fail safe 415 resets the gaming peripheral.

The fixed memory **410** is a read only memory, which is not lost when the control microprocessor **412** loses power. The fixed memory 410 stores general code that the control microprocessor 412 uses while operating. To control a specific peripheral device, the control microprocessor 412 uses code stored in the fixed memory 410 in conjunction with peripheral device specific information stored in the non-volatile memory 416. The volatile memory 408 stores code, parameters, data from the peripheral devices and data from the master gaming controller 204 that the control microprocessor 412 needs to operate. The data in volatile memory 408 is lost when the control microprocessor 412 loses power. Critical information including the current state of player tracking peripheral devices (state history information) is stored in the non-volatile memory 416. The non-volatile memory might be an EPROM, flash card memory or a battery powered RAM. In the event of a power failure or some other malfunction, the information in non-volatile memory 416 is used to restore the gaming peripheral to its state before the malfunction occurred. For example, when a player enters cash into the gaming machine, this information can be stored in nonvolatile memory 416 on the peripheral controller **434**. After this information is stored in non-volatile memory, it will be available to determine the state of the machine when any subsequent malfunctions occur.

To communicate with the peripheral controller 434, the master gaming controller 204 may include a memory (not shown) arranged to store software for a standard device identification protocol for a player tracking gaming peripheral including the peripheral controller 434. The device identification protocol may also be used for the peripheral devices connected to the player tracking gaming peripheral. The master gaming controller 204 may include a memory arranged to store a plurality of device drivers for at least some of each different type of player tracking peripheral device. The master gaming controller 204 may include a memory arranged to store software that allows the master gaming controller to detect gaming events such as "card-in" or "button depressed" on the one or more peripheral devices. The master gaming controller 204 may include a memory allowing it to send high-level or low-level instructions to the peripheral controller **434** for operating a particular player tracking device. In addition, the master gaming controller **204** may include a memory arranged to store a plurality of different types of communication protocols allowing the gaming machine to communicate with a plurality of different types of player tracking servers using different communication protocols.

FIGS. **5**A–C are front and perspective diagrams of a player tracking unit of the present invention. FIG. **5**A is a front diagram for a housing or chassis 500 enclosing three player tracking devices for one embodiment of the present invention. **As** described with reference to FIG. 2, the device housing 500 may enclose a logic device configured to execute player tracking functions or the logic device may be enclosed in a logic device housing separate from the device housing 500.

The device housing 500 encloses a display 515, a key pad 520 and a card reader 525. In other embodiments, the housing 500 may enclose many different combinations of player tracking devices. For instance, additional gaming devices, such as biometric devices and bonus buttons, may also be enclosed in the device housing. The display 515, key pad 520 and card reader 525 are mounted within a face plate 530. The face plate includes **1)** four mounting holes 512 for the display, 2) four mounting holes for the key pad 518 and 3) two mounting holes for the card reader 525. In addition, a card reader cut-out 535 and mounting holes 524 is included to allow an alternative placement of the card reader.

The dimensions of the device housing 500, (e.g. 505,508 and 510) are shown in FIGS. **5**A and **5**C. The device housing 500 is shown as a rectangular box for illustrative purposes only. A shape of the device housing 500 is variable and is not strictly limited to rectangular shapes. Dimensions of the display reader cut-out 516 (e.g. 513 and **514**), the card reader cut-out (e.g. 524 and 525) and the key pad cut-out (e.g. 522 and 523) in the face plate 530 are shown in FIG. **5**B.

The dimensions and layout of the device housing may be designed to conform to one or more standards to produce a standard device housing. A few examples of these standards are described for illustrative purposes and are not meant to be limiting. For instance, to simplify the packaging of the gaming machine, the shape of the device housing may be constrained to fit within the rectangular dimensions **505**, **508** and **510** specifying the rectangular device housing **500**. Thus, the shape of the device housing may vary but may not exceed the specified standard dimensions. **As** another example, the dimensions of the cut-outs for the various player tracking devices and a size, shape and number of the mounting holes for each device may be standardized. An advantage of this standard is that one particular type of particular player tracking device may be exchanged for another particular type of player tracking device such as exchanging one brand of card reader for another brand of card reader. **As** yet another example, the layout of the device housing may be standardized. For instance, all device housing that are mounted horizontally may use a face plate with cut-outs and mounting holes in a fixed relation to one another such as face plate 530. A standard face plate layout may simplify the design of decorative plates for each gaming machine. **As** yet another example, a standard connection scheme such as USB may be used for the device housing 500 for communicating with a master gaming controller on a gaming machine. The standards described above relating to dimensions and layout may also apply to the design of logic device housings (not shown) to produce standard logic device housings.

FIG. **5**D is a mounting system for attaching a card reader 525 to a device housing 500 of the present invention. The card reader **525** is attached to the mount **554** which is secured with a decorative plate 552 to a decorative plate 550 of LEXAN™ polycarbonate plastic material. Typically, the decorative plate **550** is silk-screened to add a particular graphic design. The attachment means for the card reader 525 may be standardized so that a single attachment means design may be used with many different types of card readers. Attachment means (not shown) are also used to secure the other player tracking devices, such as the display 515 and the key pad 520 to the device housing 500. The attachment means for each of the other player tracking devices may be standardized so that a single attachment

means design, specific to each type of player tracking device, may be used to secure many different types of each particular player device. A standard attachment means (not shown) may be also employed on the device housing **500** to secure the device housing **500** to a gaming machine. The attachment means for mounting the device housing to the gaming machine may be a standard design (e.g. number and size of mounting holes, size of the mounting bracket) and may be located at a standard location on each device housing.

In the present invention, a design of a device housings, a design of an attachment means such as a bracket to secure the device housing to a gaming machine or a design of a gaming machine may be simplified accessing specifications for player tracking units and player tracking devices for the many different manufacturers of these devices in compiled in a database or some other suitable format. The database may be consulted by a designer to design a particular part on the player tracking unit or the gaming machine. As an example, a designer may consult the database to determine dimensions and mounting requirements for one or more brands of player tracking unit when packaging a gaming machine. In designing a gaming machine to accommodate different types of player tracking units gathering the specifications for each type of player tracking is very time consuming and may be minimized using a player tracking unit design database. In another example, a designer of a player tracking unit may consult the player tracking design database to determine housing dimensions for a player tracking unit designed for a particular type of gaming machine.

Turning to FIG. **6**, a video gaming machine **2** of the present invention is shown. Machine **2** includes a main cabinet **4**, which generally surrounds the machine interior (not shown) and is viewable by users. The main cabinet includes a main door **8** on the front of the machine, which opens to provide access to the interior of the machine. Attached to the main door are player-input switches or buttons **32**, a coin acceptor **28**, and a bill validator **30**, a coin tray **38**, and a belly glass **40**. Viewable through the main door is a video display monitor **34** and an information panel **36**. The display monitor **34** will typically be a cathode ray tube, high resolution flat-panel LCD, or other conventional electronically controlled video monitor. The information panel **36** may be a back-lit, silk screened glass panel with lettering to indicate general game information including, for example, the number of coins played. The bill validator **30**, player-input switches **32**, video display monitor **34**, and information panel are devices used to play a game on the game machine **2**. The devices are controlled by circuitry (see FIG. **2**) housed inside the main cabinet **4** of the machine **2**. Many possible games, including traditional slot games, video slot games, video poker, and keno, may be provided with gaming machines of this invention.

The gaming machine **2** includes a top box **6**, which sits on top of the main cabinet **4**. The top box **6** houses a number of devices, which may be used to add features to a game being played on the gaming machine **2**, including speakers **10**, **12**, **14**, a ticket printer **18** which prints bar-coded tickets **20**, a key pad **22** for entering player tracking information, a florescent display **16** for displaying player tracking information and a card reader **24** for entering a magnetic striped card or smart card containing player tracking information. Further, the top box **6** may house different or additional devices than shown in the FIG. **6**. For example, the top box may contain a bonus wheel or a back-lit silk screened panel which may be used to add bonus features to the game being played on the gaming machine. During a game, these devices are controlled and powered, in part, by circuitry (see FIG. **2**) housed within the main cabinet **4** of the machine **2**.

Understand that gaming machine **2** is but one example from a wide range of gaming machine designs on which the present invention may be implemented. For example, not all suitable gaming machines have top boxes or player tracking features. Further, some gaming machines have two or more game displays—mechanical and/or video. And, some gaming machines are designed for bar tables and have displays that face upwards. Those of skill in the art will understand that the present invention, as described below, can be deployed on most any gaming machine now available or hereafter developed.

Returning to the example of FIG. **6**, when a user wishes to play the gaming machine **2**, he or she inserts cash through the coin acceptor **28** or bill validator **30**. Additionally, the bill validator may accept a printed ticket voucher which may be accepted by the bill validator **30** as an indicia of credit. During the game, the player typically views game information and game play using the video display **34**.

Prior to initiating game play on the gaming machine, the player may enter playing tracking information using the card reader **24**, the keypad **22**, and the florescent display **16** which may be contained in a player tracking unit as previously described with reference to FIGS. **2–4** and **5A–5D**. As another example, the player may enter playing tracking information using the card reader **24** and the video display **34** where the video display may be used as a touch screen to enter information. When the video display **34** is used as a touch screen to enter and display player tracking information, the key pad **22** and florescent display **16** may be eliminated from the gaming machine.

During the course of a game, a player may be required to make a number of decisions, which affect the outcome of the game. For example, a player may vary his or her wager on a particular game, select a prize for a particular game, or make game decisions which affect the outcome of a particular game. The player may make these choices using the player-input switches **32**, the video display screen **34** or using some other device which enables a player to input information into the gaming machine. Certain player choices may be captured by player tracking software loaded in a memory inside of the gaming machine. For example, the rate at which a player plays a game or the amount a player bets on each game may be captured by the player tracking software.

During certain game events, the gaming machine **2** may display visual and auditory effects that can be perceived by the player. These effects add to the excitement of a game, which makes a player more likely to continue playing. Auditory effects include various sounds that are projected by the speakers **10**, **12**, **14**. Visual effects include flashing lights, strobing lights or other patterns displayed from lights on the gaming machine **2** or from lights behind the belly glass **40**. After the player has completed a game, the player may receive game tokens from the coin tray **38** or the ticket **20** from the printer **18**, which may be used for further games or to redeem a prize. Further, the player may receive a ticket **20** for food, merchandise, or games from the printer **18**. The type of ticket **20** may be related to past game playing recorded by the player tracking software within the gaming machine **2**. In some embodiments, these tickets may be used by a game player to obtain game services.

FIG. 7 is a flow chart depicting a method for initializing a gaming machine with a player tracking unit of the present

invention. In **700,** the player tracking unit is powered-up. In **705,** the player tracking unit establishes communications with a player tracking server using an initial communication protocol of some type. In **707,** the player tracking server type is determined by the player tracking unit. The player tracking server type may be contained in a message sent from the player tracking server to the player tracking unit. The player tracking server type may be used by the player tracking unit to configure itself to communicate properly with the particular type of player tracking server and send player tracking information and game usage information to the player tracking server in an appropriate format. In **710,** the player tracking unit loads a communication protocol configured for communicating with the player tracking server type. Also, the player tracking unit may configure itself in any other ways necessary for operating with the player tracking server of the particular type identified in **707** such as loading player tracking application software supported by the player tracking server type. In some embodiments, the player tracking server type may be included in a configuration file stored in a memory on the player tracking unit or the gaming machine. In this embodiment, the player tracking unit may access the configuration file, determine the player tracking server type and configure itself for operating with the player tracking server type prior establishing communications with the player tracking server in **705.**

In **715,** the player tracking unit establishes communication with a master gaming controller on the gaming machine using an initial communication protocol of some type. In **717,** the player tracking unit determines the gaming machine type. In **720,** the player tracking unit configures itself to communicate in a communication format used by a master gaming controller on the gaming machine such as USB or RS-232. In **721,** the player tracking unit may determine which player tracking functions are to be executed by the player tracking unit. As described above, the player tracking functions may be distributed between logic devices located on the player tracking unit, located on the gaming machine or other gaming devices. For example, the master gaming controller may send game usage information directly to the player tracking server. In this example, the player tracking unit may not poll the gaming machine for game usage information because this player tracking function is performed by the gaming machine. In **722,** the player tracking unit loads player tracking software necessary to perform the player tracking functions determined in **721.** In some embodiments, the gaming machine type and player tracking functions may be included in a configuration file stored in a memory on the player tracking unit. In this embodiment, the player tracking unit may read the configuration file, determine the gaming machine type and player tracking functions and configure itself for operating with the gaming machine type and player tracking functions prior to establishing communications with the gaming machine in **715.**

In **725** and **727,** the player tracking unit may optionally establish communications with each of the player tracking peripheral devices using an initial communication protocol such as USB and determine the peripheral device types. For instance, the peripheral device type may be a card reader by a particular manufacturer. In **730,** the player tracking unit may load peripheral device drivers for each type of player tracking peripheral device. Some of the peripheral devices on the player tracking unit may be operated by a master gaming controller on a gaming machine. Thus, the player tracking unit may load appropriate software allowing the master gaming controller to operate the player tracking peripheral devices (e.g. gaming devices enclosed in the player tracking unit). In **735,** the player tracking unit may initiate the player tracking functions determined in **721** such as collecting game usage information from the gaming machine or communicating with a player tracking server.

FIG. **8** is a flow chart depicting a method for of designing and producing a player tracking unit for installation in a gaming machine **800.** In **805,** one or more components to be included in the player tracking unit are identified. For example, one or more components may be selected from the group consisting of player tracking devices such as a card reader, a display, a finger print device, a key pad, a bonus button and a logic device. In **810,** one or more housings are defined for the player tracking unit. For instance, a shape for a device housing and a logic device housing may be defined. The shape of the housings may conform to one or more dimensional standards as described with reference to FIGS. **5**A–**5**D. In **815,** an arrangement of components with respect to one another within a particular housing is defined. The arrangement of the components and the components dimensions may conform to one or more layout standards. In **820,** the player tracking unit having the defined housing and one or more components is produced. The manufactured player tracking unit may be an after-market device for use in a pre-existing gaming machine.

A design method for the player tracking unit may comprise: 1) selecting a gaming machine type such as a brand from a particular manufacturer, 2) selecting one or more peripheral device types such as card readers, displays, etc., 3) consulting a table of standard dimensions and a table of standard layouts types for designing one or more housings that conform to the gaming machine type and the peripheral device types, 4) selecting housing dimensions and a layout type for said housing, 5) consulting a table of standard dimensions and standard attachment means for mounting each peripheral device type to the housing and 6) selecting a standard dimension and standard dimension and standard attachment means for each peripheral device type. To design a logic device housing, a table of standard dimensions and a standard layout types may be consulted and a logic device housing dimensions may be selected from the table. Tables with the various dimensions and layouts may stored in an electronic database as described with reference to FIG. **5.** The database may be implemented on a computer system as part of CAD/CAM system. The database may store CADI CAM representations of each component and gaming machine components that may be selected and inserted into a CAD/CAM design of a player tracking unit and a gaming machine. The CAD/CAM system may aid in packaging and layout design for the player tracking unit and the gaming machine.

FIG. **9** is a flow chart depicting a method of configuring a player tracking unit from a remote server. In **900,** the player tracking unit is powered-up. The player tracking unit may be a logic device located in a hardware unit attached to a gaming machine, a master gaming controller designed or configured to execute player tracking functions or combinations thereof. In **905,** a logic device performing player tracking functions loads an initial set of player tracking software. The initial set of player tracking software may include but is not limited to software that allows the logic device to perform a generic set of player tracking functions and communication software that allows the player tracking unit to contact a remote server such as a player tracking1 accounting server or a player tracking software server. In **910,** the logic device establishes a communication connection with the remote server. For instance, a boot protocol, available with a TCP/IP communication may be used to

establish connections with the remote server. In **920,** the logic device may download player tracking software from the remote server. The player tracking software may include but is not limited to 1) one or more device drivers, 2) one or more communication protocols (e.g. player tracking communication protocols), 3) one or more player tracking applications and 4) one or more player tracking settings. As an example, the player tracking communication protocol may be described in a generic communication protocol such as a mark-up language or a proprietary communication protocol used by a particular player tracking server. In **930,** the logic device may load the player tracking software downloaded from the remote server and configure itself with any player tracking settings received from the remote server. In **940,** the logic device may begin player tracking operations.

One advantage of downloading player tracking software from a remote server is that it may reduce memory requirements on the player tracking unit. For instance, a player tracking unit storing communication protocols and device drivers for a large number of devices may require more memory than a player tracking unit that downloads a specified player tracking software configuration from a remote server. In addition, the downloading of player tracking software from a remote server may simplify the process of upgrading player tracking software on a player tracking device in communication with the remote server.

Although the foregoing invention has been described in some detail for purposes of clarity of understanding, it will be apparent that certain changes and modifications may be practiced within the scope of the appended claims. For instance, while the player tracking units of this invention have been depicted as having rectangular enclosures, the use of player tracking units in accordance with this invention is not so limited. For example, player tracking units may be provided with enclosures including one or more partially curved surfaces.

What is claimed is:

1. A player tracking unit comprising:

one or more of the following peripheral devices: a card reader, a display, a key pad, a bonus button, a sound device and a biometric input device;

a logic device designed or configured 1) to collect player tracking information from the peripheral devices, 2) to collect gaming information from a master gaming controller that controls a game played on a gaming machine and 3) to send the player tracking information and accounting information to a player tracking server; and a memory arranged to store a plurality of different communication protocols allowing the logic device to communicate with a plurality of different types of gaming machines using different communication protocols to communicate with the player tracking unit and a plurality of different types of player tracking servers using different communication protocols to communicate with the player tracking unit; and

a standard housing for the player tracking unit, enclosing the logic device and the peripheral devices, designed or configured to fit in one of a plurality of different types of gaming machines wherein the standard housing conforms to at least one of standard dimensions and a standard layout of the peripheral devices.

2. The player tracking unit of claim **1,** further comprising:

a memory arranged to store a plurality of device drivers for each type of peripheral device.

3. The player tracking unit of claim **1,** further comprising:

a standard mounting means designed or configured to mount one of a plurality of different types of card readers in the player tracking unit.

4. The player tracking unit of claim **1,** further comprising:

a standard mounting means designed or configured to mount one of a plurality of different types of displays in the player tracking unit.

5. The player tracking unit of claim **1,** further comprising:

a standard mounting means designed or configured to mount one of a plurality of different types of key pads in the player tracking unit.

6. The player tracking unit of claim **1,** further comprising:

a standard device housing, enclosing the one or more peripheral devices and separate from a housing enclosing the logic device, designed or configured to fit in one of a plurality of different types of gaming machines wherein the standard housing conforms to at least one of standard dimensions and a standard layout of the peripheral devices.

7. The player tracking unit of claim **1,** further comprising:

a standard logic device housing, enclosing the logic device and separate from a housing enclosing the one or more peripheral devices, designed or configured to fit in one of a plurality of different types of gaming machines.

8. The player tracking unit of claim **1,** further comprising:

a network interface.

9. The player tracking unit of claim **1,** wherein the network interface is a wireless interface or a wired interface.

10. The player tracking unit of claim **1,** further comprising:

a firewall.

11. The player tracking unit of claim **1,** further comprising:

a peripheral communications connection.

12. The player tracking unit of claim **11,** wherein the logic device is designed or configured to communicate with the master gaming controller via the peripheral communication connection using a standard communication protocol.

13. The player tracking unit of claim **12,** wherein the standard communication protocol is USB.

14. The player tracking unit of claim **11,** further comprising:

a hub connected to the peripheral communications connection and containing a plurality of peripheral communications connections.

15. The player tracking unit of claim **1,** wherein the logic device may be designed or configured to receive from the master gaming controller operation instructions for one or more peripheral devices.

16. The player tracking unit of claim **1,** wherein the card reader is designed or configured to read a smart card or write to the smart card.

17. The player tracking unit of claim **1,** wherein the biometric input device is a finger print device.

18. The player tracking unit of claim **1,** wherein the logic device is a microcontroller or a microprocessor.

19. The player tracking unit of claim **1,** wherein the logic device is designed or configured to send information to a peripheral device.

20. The player tracking unit of claim **1,** wherein the memory is selected from the group consisting of a flash memory, a hard drive, a CD/DVD.

21. The player tracking unit of claim **1,** wherein the logic device is designed or configured to employ one or more application program interfaces.

22. The player tracking unit of claim **21,** wherein the one or more application program interfaces are described using a mark-up language.

23. The player tracking unit of claim **22,** wherein the mark-up language is selected from the group consisting of a hyper text mark-up language, an extensible markup language, a wireless mark-up language, and a hand-held device markup language.

24. A gaming machine comprising:

a master gaming controller designed or configured to control one or more games on the gaming machine; and

a player tracking unit comprising;

one or more of the following peripheral devices: a card reader, a display, a key pad, a bonus button and a biometric input device;

a logic device, separate from the master gaming controller, designed or configured to collect player tracking information from the peripheral devices and to collect accounting information from a master gaming controller on a gaming machine and send the player tracking information and the accounting information to a player tracking server; and

a memory arranged to store a plurality of different communication protocols allowing the logic device to communicate with a plurality of different types of gaming machines using different communication protocols to communicate with the player tracking unit and a plurality of different types of player tracking servers using different communication protocols to communicate with the player tracking unit; and

a standard logic device housing, enclosing the logic device and separate from a housing adapted for coupling the one or more peripheral devices to the gaming machine, designed or configured to fit in one of a plurality of different types of gaming machines.

25. The gaming machine of claim **24,** wherein the game is a video bingo game, a video lottery game, a video blackjack game, a video slot game, a mechanical slot game, a video poker game, a video keno game, a video pachinko game, a video game of chance and a video card game.

26. The gaming machine of claim **24,** wherein the gaming machine includes mounting means designed to mount a player tracking unit enclosed in a standard housing.

27. The gaming machine of claim **24,** wherein the master gaming controller includes a memory arranged to store software that allows the master gaming controller to detect gaming events on the one or more peripheral devices.

28. The gaming machine of claim **24,** further comprising:

a peripheral communication connection.

29. The gaming machine of claim **28,** wherein the master gaming controller includes a memory arranged to store software for a communication protocol that allows communication with the player tracking unit via the peripheral communication connection.

30. The gaming machine of claim **29,** wherein the communication protocol is USB.

31. The gaming machine of claim **24,** wherein the logic device on said player tracking unit is designed or configured to receive instructions from the master gaming controller controlling the operation of one or more of said peripheral devices.

32. The gaming machine of claim **24,** wherein the master gaming controller executes player tracking software allowing the master gaming controller to perform one or more player tracking functions.

33. The gaming machine of claim **24,** wherein the logic device on said player tracking unit is designed or configured to send information to one or more of said peripheral devices.

34. The gaming machine of claim **24,** wherein the logic device on said player tracking unit is designed or configured to send operating instructions to one or more of said peripheral devices.

35. The gaming machine of claim **24,** wherein the logic device is designed or configured to employ one or more application program interfaces.

36. The gaming machine of claim **35,** wherein the one or more application program interfaces are described using a mark-up language.

37. The gaming machine of claim **36,** wherein the mark-up language is selected from the group consisting of a hyper text mark-up language, an extensible markup language, a wireless mark-up language, and a hand-held device markup language.

38. The gaming machine of claim **24,** wherein the master gaming controller is designed or configured to employ one or more application program interfaces.

39. The gaming machine of claim **38,** wherein the one or more application program interfaces are described using a mark-up language.

40. The gaming machine of claim **39,** wherein the mark-up language is selected from the group consisting of a hyper text mark-up language, an extensible markup language, a wireless mark-up language, and a hand-held device markup language.

41. A player tracking gaming peripheral comprising:

a peripheral communication connection;

a peripheral controller configured or designed to control communications with a master gaming controller that controls a game played on a gaming machine and to receive instructions from the master gaming controller for one or more of the following peripheral devices: a card reader, a display, a key pad, a bonus button and a biometric input device wherein the instructions from the master gaming controller allow the player tracking gaming peripheral to operate on player tracking events; and

a standard housing for the player tracking gaming peripheral designed or configured to fit in one of a plurality of different types of gaming machines wherein the standard housing conforms to at least one of standard dimensions and a standard layout of the one or more peripheral devices.

42. The player tracking gaming peripheral of claim **41,** further comprising:

a peripheral interface that directly connects to the one or more peripheral devices.

43. The player tracking gaming peripheral of claim **41,** further comprising:

a hub connected to the peripheral communications connection and containing a plurality of peripheral communications connections.

44. The player tracking gaming peripheral of claim **41,** wherein the peripheral controller includes a control microprocessor, separate from the master gaming controller, designed or configured to communicate over the peripheral communications connection.

45. The player tracking gaming peripheral of claim **41,** wherein the peripheral controller includes a non-volatile memory arranged to store at least one of a) configuration parameters specific to the player tracking gaming peripheral and b) state history information of the player tracking gaming peripheral.

46. The player tracking gaming peripheral of claim **41,** wherein the peripheral controller includes a non-volatile memory arranged to store operating code for the gaming peripheral.

47. The player tracking gaming peripheral of claim **41,** wherein the peripheral controller includes a memory arranged to store a plurality of device drivers for each type of peripheral device.

48. The player tracking gaming peripheral of claim **41,** wherein the peripheral controller includes a memory arranged to store software for a communication protocol that allows communication with the master gaming controller.

49. The player tracking gaming peripheral of claim **41,** wherein the communication protocol is USB.

50. The player tracking gaming peripheral of claim **41,** wherein the card reader is designed or configured to read a smart card or write to the smart card.

51. The player tracking gaming peripheral of claim **41,** wherein the biometric input device is a finger print device.

52. The player tracking gaming peripheral of claim **41,** further comprising:

a standard mounting means designed or configured to mount one of a plurality of different types of card readers in the player tracking gaming peripheral.

53. The player tracking gaming peripheral of claim **41,** further comprising:

a standard mounting means designed or configured to mount one of a plurality of different types of displays in the player tracking gaming peripheral.

54. The player tracking gaming peripheral of claim **41,** further comprising:

a standard mounting means designed or configured to mount one of a plurality of different types of key pads in the player tracking gaming peripheral.

55. The player tracking gaming peripheral of claim **41,** wherein the peripheral controller is designed or configured to employ one or more application program interfaces.

56. The player tracking gaming peripheral of claim **55,** wherein the one or more application program interfaces are described using a mark-up language.

57. The player tracking gaming peripheral of claim **56,** wherein the mark-up language is selected from the group consisting of a hyper text mark-up language, an extensible markup language, a wireless mark-up language, and a hand-held device markup language.

58. A gaming machine comprising:

a master gaming controller designed or configured to control one or more games on the gaming machine;

a network interface for communicating with a player tracking server; and

a player tracking gaming peripheral, the player tracking gaming peripheral comprising;

a peripheral communication connection;

a peripheral controller configured or designed to control communications with the master gaming controller and to receive instructions from the master gaming controller for one or more of the following peripheral devices: a card reader, a display, a key pad, a bonus button and a biometric input device wherein the instructions from the master gaming controller allow the player tracking gaming peripheral to operate on player tracking events; and

a standard housing for the player tracking gaming peripheral designed or configured to fit in one of a plurality of different types of gaming machines wherein the standard housing conforms to at least one of standard dimensions and a standard layout of the one or more peripheral devices.

59. The gaming machine of claim **58,** wherein the gaming machine wherein the game is a video bingo game, a video lottery game, a video black jack game, a video slot game, a mechanical slot game, a video poker game, a video keno game, a video pachinko game, a video game of chance and a video card game.

60. The gaming machine of claim **58,** wherein the master gaming controller includes a memory arranged to store software for a standard device identification protocol for the player tracking gaming peripheral and the one or more peripheral devices.

61. The gaming machine of claim **58,** wherein the master gaming controller includes a memory arranged to store a plurality of device drivers for at least some of each different type of peripheral device.

62. The gaming machine of claim **58,** wherein the master gaming controller is designed or configured to send player tracking information and accounting information using the network interface to the player tracking server.

63. The gaming machine of claim **58,** wherein the master gaming controller is designed or configured to receive player tracking information from the player tracking server using the network interface.

64. The gaming machine of claim **58,** wherein the network interface is a wireless interface or a wired interface.

65. The gaming machine of claim **58,** wherein the master gaming controller includes a memory arranged to store software that allows the master gaming controller to detect gaming events on the one or more peripheral devices.

66. The gaming machine of claim **65,** wherein the gaming event is a player tracking event.

67. The gaming machine of claim **58,** wherein the master gaming controller includes a memory arranged to store software for a communication protocol that allows communication with the player tracking gaming peripheral via the peripheral communication connection.

68. The gaming machine of claim **67,** wherein the communication protocol is USB.

69. The gaming machine of claim **58,** wherein the player tracking gaming peripheral is designed or configured to receive high-level instructions from the master gaming controller that do not specify precise control of the operation for one or more of said peripheral devices and wherein the peripheral controller provides low-level instructions, following the high-level instructions, precisely controlling the operation of one or more of said peripheral devices.

70. The gaming machine of claim **58,** wherein the master gaming controller includes a memory arranged to store a plurality of different types of communication protocols allowing the gaming machine to communicate with a plurality of different types of player tracking servers using different communication protocols to communicate with the gaming machine.

71. The gaming machine of claim **70,** wherein the mark-up language is selected from the group consisting of hyper text mark-up language, extensible markup language, wireless mark-up language, and hand-held device markup language.

72. The gaming machine of claim **58,** wherein the gaming machine includes mounting means designed to mount a player tracking gaming peripheral enclosed in a standard housing.

73. The gaming machine of claim **58,** wherein the peripheral controller is designed or configured to employ one or more application program interfaces.

74. The gaming machine of claim **73,** wherein the one or more application program interfaces are described using a mark-up language.

75. The gaming machine of claim **58,** wherein the master gaming controller is designed or configured to employ one or more application program interfaces.

76. The gaming machine of claim **75,** wherein the one or more application program interfaces are described using a mark-up language.

77. The gaming machine of claim **76,** wherein the mark-up language is selected from the group consisting of hyper text mark-up language, extensible markup language, wireless mark-up language, and hand-held device markup language.

78. The gaming machine of claim **58,** wherein the peripheral controller includes a memory arranged to store a plurality of different types of communication protocols allowing the gaming machine to communicate with a plurality of different types of player tracking servers using different communication protocols to communicate with the gaming machine.

79. The gaming machine of claim **58,** wherein the peripheral controller is designed or configured to send player tracking information and accounting information using the network interface to the player tracking server.

80. The gaming machine of claim **58,** wherein the peripheral controller is designed or configured to receive player tracking information from the player tracking server using the network interface.

81. The gaming machine of claim **58,** wherein the peripheral controller and the master gaming controller are designed or configured to execute one or more essentially identical player tracking software applications.

82. A player tracking unit comprising:

one or more of the following peripheral devices: a card reader, a display, a key pad, a bonus button, a sound device and a biometric input device;

a logic device designed or configured 1) to collect player tracking information from the peripheral devices, 2) to collect gaming information from a master gaming controller that controls a game played on a gaming machine and 3) to send the player tracking information and accounting information to a player tracking server;

a memory arranged to store a plurality of different communication protocols allowing the logic device to communicate with a plurality of different types of gaming machines using different communication protocols to communicate with the player tracking unit and a plurality of different types of player tracking servers using different communication protocols to communicate with the player tracking unit; and

a standard logic device housing, enclosing the logic device and separate from a housing adapted for coupling the one or more peripheral devices to the gaming machine, designed or configured to fit in one of a plurality of different types of gaming machines.

83. The player tracking unit of claim **82,** further comprising:

a standard housing for the player tracking unit, enclosing the logic device and the peripheral devices, designed or configured to fit in one of a plurality of different types of gaming machines wherein the standard housing conforms to at least one of standard dimensions and a standard layout of the peripheral devices.

84. The player tracking unit of claim **82,** further comprising:

a standard mounting means designed or configured to mount one of a plurality of different types of card readers in the player tracking unit.

85. The player tracking unit of claim **82,** further comprising:

a standard mounting means designed or configured to mount one of a plurality of different types of displays in the player tracking unit.

86. The player tracking unit of claim **82,** further comprising:

a standard mounting means designed or configured to mount one of a plurality of different types of key pads in the player tracking unit.

87. The player tracking unit of claim **82,** further comprising:

a standard device housing, enclosing the one or more peripheral devices and separate from a housing enclosing the logic device, designed or configured to fit in one of a plurality of different types of gaming machines wherein the standard housing conforms to at least one of standard dimensions and a standard layout of the peripheral devices.

88. The player tracking unit of claim **82,** further comprising:

a standard logic device housing, enclosing the logic device and separate from a housing enclosing the one or more peripheral devices, designed or configured to fit in one of a plurality of different types of gaming machines.

89. The player tracking unit of claim **82,** further comprising:

a network interface.

90. The player tracking unit of claim **82,** wherein the network interface is a wireless interface or a wired interface.

91. The player tracking unit of claim **82,** further comprising:

a firewall.

92. The player tracking unit of claim **82,** further comprising:

a peripheral communications connection.

93. The player tracking unit of claim **92,** wherein the logic device is designed or configured to communicate with the master gaming controller via the peripheral communication connection using a standard communication protocol.

94. The player tracking unit of claim **93,** wherein the standard communication protocol is USB.

95. The player tracking unit of claim **92,** further comprising:

a hub connected to the peripheral communications connection and containing a plurality of peripheral communications connections.

96. The player tracking unit of claim **82** wherein the logic device may be designed or configured to receive from the master gaming controller operation instructions for one or more yeriyheral devices.

97. A player tracking unit comprising:

one or more of the following peripheral devices: a card reader, a display, a key pad, a bonus button, a sound device and a biometric input device;

a logic device designed or configured 1) to collect player tracking information from the peripheral devices, 2) to collect gaming information from a master gaming controller that controls a game played on a gaming machine and 3) to send the player tracking information and accounting information to a player tracking server;

a memory arranged to store a plurality of different communication protocols allowing the logic device to communicate with a plurality of different types of gaming machines using different communication protocols to communicate with the player tracking unit and a plurality of different types of player tracking servers using different communication protocols to communicate with the player tracking unit; and

a standard device housing, enclosing the one or more peripheral devices and separate from a housing enclosing the logic device, designed or configured to fit in one of a plurality of different types of gaming machines wherein the standard housing conforms to at least one of standard dimensions and a standard layout of the peripheral devices.

98. The player tracking unit of claim **97,** further comprising:

a standard housing for the player tracking unit, enclosing the logic device and the peripheral devices, designed or configured to fit in one of a plurality of different types of gaming machines wherein the standard housing conforms to at least one of standard dimensions and a standard layout of the peripheral devices.

99. The player tracking unit of claim **97,** further comprising:

a standard mounting means designed or configured to mount one of a plurality of different types of card readers in the player tracking unit.

100. The player tracking unit of claim **97,** further comprising:

a standard mounting means designed or configured to mount one of a plurality of different types of displays in the player tracking unit.

101. The player tracking unit of claim **97,** further comprising:

a standard mounting means designed or configured to mount one of a plurality of different types of key pads in the player tracking unit.

102. The player tracking unit of claim **97,** further comprising:

a standard logic device housing, enclosing the logic device and separate from a housing enclosing the one or more peripheral devices, designed or configured to fit in one of a plurality of different types of gaming machines.

103. The player tracking unit of claim **97,** further comprising:

a standard logic device housing, enclosing the logic device and separate from a housing enclosing the one or more peripheral devices, designed or configured to fit in one of a plurality of different types of gaming machines.

104. The player tracking unit of claim **97,** further comprising:

a network interface.

105. The player tracking unit of claim **97,** wherein the network interface is a wireless interface or a wired interface.

106. The player tracking unit of claim **97,** further comprising:

a firewall.

107. The player tracking unit of claim **97,** further comprising:

a peripheral communications connection.

108. The player tracking unit of claim **107,** wherein the logic device is designed or configured to communicate with the master gaming controller via the peripheral communication connection using a standard communication protocol.

109. The player tracking unit of claim **108,** wherein the standard communication protocol is USB.

110. The player tracking unit of claim **107,** further comprising:

a hub connected to the peripheral communications connection and containing a plurality of peripheral communications connections.

111. The player tracking unit of claim **97,** wherein the logic device may be designed or configured to receive from the master gaming controller operation instructions for one or more peripheral devices.

* * * * *

EXHIBIT 3

FORM 10-K

United States Securities and Exchange Commission
Washington, D.C. 20549

☑ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the Fiscal Year Ended September 30, 2005

OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15 (d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from _____ to _____

Commission File Number 001-10684

International Game Technology

(Exact name of registrant as specified in its charter)

Nevada	**88-0173041**
(State of Incorporation)	(I.R.S. Employer Identification No.)

9295 Prototype Drive, Reno, Nevada 89521
(Address of principal executive offices)
Registrant's telephone number, including area code: **(775) 448-7777**
Registrant's website: www.IGT.com

Securities registered pursuant to Section 12(b) of the Act:

Title of Each Class	Name of Each Exchange on Which Registered
Common Stock, Par Value $.00015625	New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-Known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☑ No ☐

If this report is an annual or transition report, indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934. Yes ☐ No ☑

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☑ No ☐

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ☑

Indicate by check mark whether the registrant is an accelerated filer (as defined in Exchange Act Rule 12b-2). Yes ☑ No ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☑

The aggregate market value of the voting stock held by non-affiliates of the registrant as of March 31, 2005:
$9,159,968,750

The number of shares outstanding of each of the registrant's classes of common stock, as of December 9, 2005:

PRODUCT DEMAND
Demand for our products is driven by a number of factors:

- **The replacement of older or obsolete machines due to technological innovations**

  The replacement cycle in all gaming jurisdictions represents a significant portion of sales in any given year. It is driven primarily by competition in each market to provide players with more entertaining and sophisticated games. As new machines are installed, the earnings disparity and casino operator's efficiencies between the older and newer units on casino floors widen and the replacement cycle is further stimulated. We anticipate the introduction of new, more sophisticated interactive games and systems combined with the cost savings, convenience, and other benefits of our advanced platforms will continue to stimulate demand for replacement machines. The willingness and ability of operators to invest in new or additional machines is also a factor.

- **Casino expansion or new casino openings within existing gaming regions**

  The construction of new casino properties generates product demand for the new casinos, as well as spurring replacement machines at neighboring casinos, which tend to upgrade in order to remain competitive.

- **The establishment of new gaming jurisdictions**

  Over the past decade, significant increases in the market installed base of gaming machines were driven by the growth in the number of jurisdictions with legalized gaming and the increasing popularity of large theme-based casinos. We believe that our manufacturing capabilities along with our innovative products provide a competitive advantage in providing new casinos with large numbers of machines.

- **Player appeal, price, service, operator efficiencies, technical capability**

  Entertainment value to the player is the most important feature of our products. Machine design, hardware, software, game features and ease of play also contribute to the earnings power of our gaming machines. All of these features are designed to collectively improve our customers' return on investment.

- **Manufacturer's reputation and reliability**

  A reputable history with customers and brand name recognition, combined with financial strength and extensive infrastructure, encourages operators to select one manufacturer's product over another.

STRATEGIC ACQUISITIONS

As part of our ongoing efforts to create shareholder value, we complement our internal resources through strategic acquisitions of businesses that:

- offer opportunities to diversify our geographic reach
- expand our product lines and customer base
- leverage our technological and manufacturing infrastructure to increase our rates of return

The acquisition costs in the table below represent the purchase consideration including debt assumed.

Company Acquired	Date	Cost
		(In millions)
WagerWorks, Inc.	August 2005	$ 88.1
Hi-Tech Gaming.com, Ltd.	December 2004	10.3
Acres Gaming Incorporated	October 2003	134.0
Anchor Gaming	December 2001	1,323.9
Silicon Gaming, Inc.	March 2001	47.4
Sodak Gaming, Inc.	September 1999	198.9
Barcrest Limited	March 1998	72.9
Olympic Amusement Pty. Limited	March 1998	108.9

WagerWorks

On August 25, 2005, in an all cash merger, we acquired WagerWorks, a provider of internet gaming technology, content and services. WW brings a content portfolio and a strict policy of not conducting business with operators who knowingly process gambling transactions from the US. We anticipate this business combination will enable us to expand the distribution of our game content across new channels and mediums, including the internet, mobile devices, and interactive television.

Hi-Tech

On December 31, 2004, we acquired substantially all of the assets of Hi-Tech, our former distributor of gaming equipment and services in Canada. This acquisition allows us to further develop our Canadian customer relationships, integrating Hi-Tech employees with IGT resources.

Acres

We completed the acquisition of Acres, a software company specializing in the development of gaming systems technology designed to assist casino operators in increasing patron loyalty, on October 27, 2003. This business combination gave us access to the Acres suite of integrated casino management systems products offered under *Acres Bonusing ™*, *Acres Cashless ™* and *Acres Advantage ™*, as well as enabling us to:

- utilize the Acres gaming systems technology to develop more integrated gaming systems products
- increase our competitive marketing capability
- position IGT as a leading global provider of casino gaming systems

During fiscal 2004, we integrated Acres with the IGT Systems group, inclusive of development, sales, service and operations related to all systems products.

Anchor

On December 30, 2001, we completed the acquisition of Anchor, our JV partner since 1996. We have successfully integrated the two entities, assimilating personnel and physical resources to improve our mix of game design, productivity, and customer service. Certain Anchor operations divested and sold for cash subsequent to acquisition have been reclassified as discontinued operations for all periods presented. See Note 2 of our Consolidated Financial Statements for additional financial information related to these divestitures.

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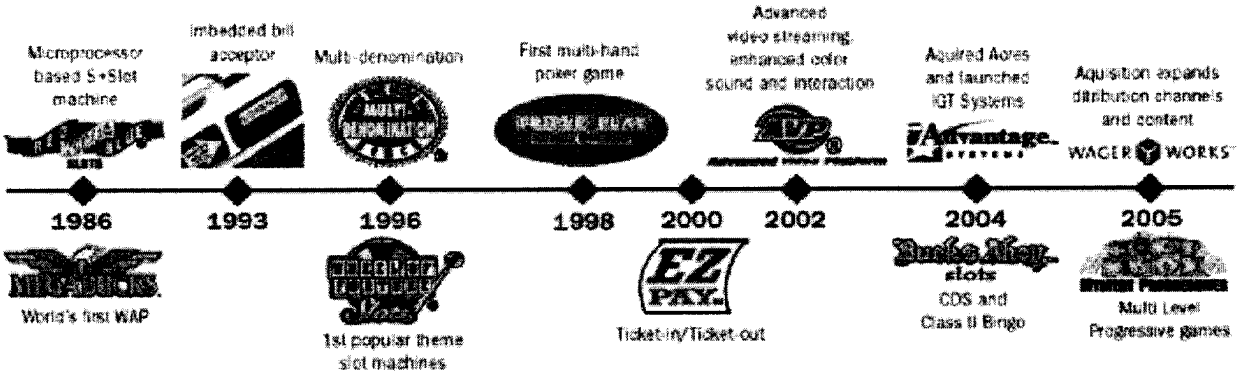
PRODUCT DEVELOPMENT

IGT's standing as a leader in the global gaming market is built largely on the ability to develop, design, and deliver games that people find entertaining and want to play. This game development strategy combined with our integrated casino management systems work together to improve casino operations and profitability.

Our emphasis and investment in R&D helps us maintain our leadership position in the industry. In addition to our primary development facilities located in Nevada, we have several design centers worldwide. These strategically located centers provide a local presence and access to our customers, allowing us to quickly respond to market needs and preferences. In fiscal 2005, we established a new R&D group with dedicated resources focusing on development of our next generation platforms, games and systems.

We have dedicated over 1,200 employees worldwide to product development in various disciplines from hardware, software and firmware engineering to game design, video, multimedia, graphics and sound. Our investment in R&D totaled $138.4 million in fiscal 2005, $129.3 million in fiscal 2004, and $94.9 million in fiscal 2003.

Our business can be explained as the creation of game content and the delivery of these games to the consumer via platforms and systems. We are a prominent designer of games, platforms and systems in the gaming industry. We accomplish this by anticipating client needs, responding to feedback and marketing trends, and pioneering innovative gaming machines and reliable systems solutions. Our timeline of technology introductions demonstrates these development efforts.



Our product development process is not complete until our Compliance teams ensure that each game, product or system meets all of the requirements in each jurisdiction. IGT conducts business in over 280 jurisdictions worldwide, as well as over 100 international jurisdictions not requiring licensure, with over 80 people dedicated to regulatory and product compliance. During fiscal 2005, we presented over 35,000 product submissions worldwide.

Games

We combine the elements of art, math, sound, play mechanics and technological advancements with our entertainment license library and patented intellectual property to provide gaming machines with a high degree of player appeal. Our continued commitment to the development of industry leading games helps maintain our market share and profitability.

Our games are developed either by employee designers and artists or independent third party developer arrangements, some of which include advanced funding against subsequent royalties to be earned upon the sale or placement of products. Although we are not materially dependent upon third party developers, these relationships provide additional sources of creative ideas and games.

In fiscal 2005, we introduced 172 new game themes for spinning reel, video and video poker in North America. In addition, we modified these games to comply with the guidelines, rules, and regulations for Class II, CDS, international and lottery markets, resulting in over 300 additional game introductions. We remain the North America market leader in traditional spinning reel and video poker games, however, competition is more intense in video games with fewer barriers to entry and the relative ease of creation. We plan to aggressively address the competitive nature of video game development and continue designing innovative spinning reel and poker games.

MARKET REGIONS

We market our gaming products to legalized gaming jurisdictions around the world. While our most significant markets are in North America, we continue to pursue expanding international markets. The opportunities, challenges and our successes vary across these jurisdictions.

North America

Gaming continues to be a popular leisure activity in North America and continued development of newer, more innovative gaming devices fuels this demand. We expect continued opportunities for gaming growth and expansion, as we have witnessed since Midwest riverboat gaming introductions in the early 1990s, more recently with tribal casino expansion, and growth in non-casino venues such as race tracks or racinos and bingo parlors. The emergence of central determination and Class II markets has spurred new growth opportunities in areas IGT was previously unable to capitalize upon due to regulatory uncertainties. We have now developed new CDS and Class II products, opened sales and service facilities in Oklahoma, and established a commercial presence in Alabama.

Despite a more challenging competitive environment in 2005, we continued to hold a leading share of the North America market installed base as a result of our:

- commitment to innovation, game design, and technological advances in our games and systems
- extensive patent and theme library
- manufacturing capacity
- combined team efforts in Compliance, Sales and Customer Service

The market installed base of gaming machines has increased from approximately 184,000 machines in 1991 to 829,000 machines in 2005. Based on internal data and information provided by various gaming agencies, we compiled the following table of the estimated market base of gaming machines installed in North America. Native America includes both Class II and Class III gaming machines. "Traditional" gaming machines below is comprised of non-tribal casino-style installations, including riverboats and cruise ships.

	Estimated Market Base	
September 30,	2005	2004
Traditional	220,000	221,000
Native America Tribal	110,000	102,000
Racino/Lottery	33,000	28,000
US Western Region	**363,000**	**351,000**
Traditional	127,000	126,000
Native America Tribal	98,000	94,000
Racino/Lottery	23,000	23,000
US Central Region	**248,000**	**243,000**
Traditional	66,000	65,000
Native America Tribal	33,000	28,000
Racino/Lottery	34,000	32,000
US Eastern Region	**133,000**	**125,000**
Traditional	46,000	44,000
Racino/Lottery	39,000	39,000
Canadian Region	**85,000**	**83,000**
Total North America	**829,000**	**802,000**

Gaming Expansion

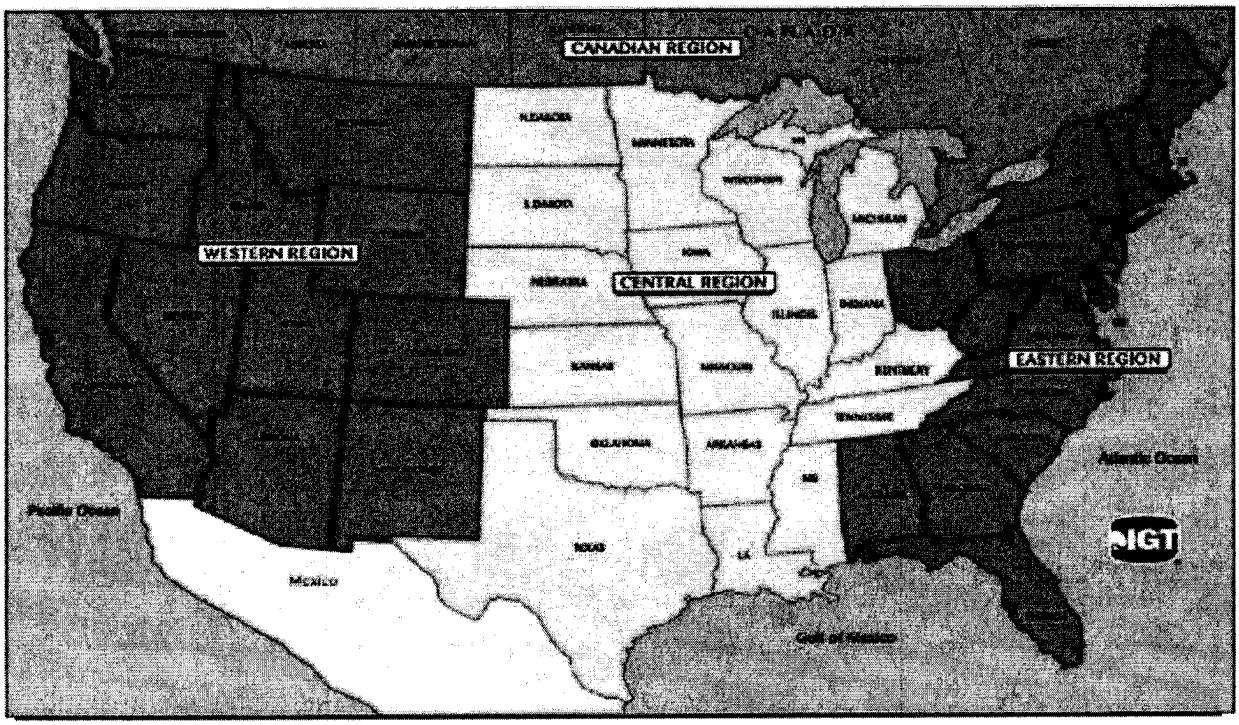
We anticipate expansion of legalized gambling previously forecasted for 2005 and early 2006 will occur in late 2006 through 2008. With recent legislative action and voter referendums, we expect to see new markets opening in both Florida and Pennsylvania in late calendar 2006. We see strong potential for further growth in California due to the popularity of gaming, as well as prospective new and renegotiated tribal state compacts. We anticipate both California and Washington will provide additional opportunities for CDS and Class II expansion, and that Florida and Oklahoma will provide Class II growth. Further expansion in Class II markets may be impacted by the issuance of additional clarification as to what constitutes a Class II device, pending US Department of

Justice rulings, and federal legislation currently under consideration.

We continue monitoring gaming legislation under consideration in a number of other states that currently do not allow gaming machines, including Kansas, Maryland, Massachusetts, Ohio and Texas. With our leadership position in traditional Class III gaming markets and expanded CDS and Class II product lines, we believe IGT will be the supplier of choice in any of these potential new markets.

Sales and Service Regions

During the second quarter of fiscal 2005, we organized our North America sales and service groups into regional areas, moving us closer, and further improving responsiveness, to our customers.



US Western Region

With a market installed base of approximately 363,000 gaming machines across 11 states, the western region comprises over 40% of the North America market. Nevada continues to dominate this region as the largest and most established gaming market in the world, with an installed market base of approximately 204,000 machines in 260 casinos.

Nevada's largest concentration of gaming is located in and around Las Vegas. A major impetus for expansion in Las Vegas occurred with the opening of Wynn Las Vegas in April 2005. The Las Vegas off-Strip or locals market is expected to expand in 2006 with the scheduled openings of Boyd's South Coast Casino and Station's Red Rock Station Casino. With extensive restaurant and hotel operations, these two new casinos will be major attractions for Las Vegas locals.

Northern Nevada is also showing signs of expansion. Station Casinos announced plans for two new properties in the Reno area. In addition the Peppermill Casino in Reno announced a major expansion and the possibility of a new property north of Reno.

The competitive landscape in Nevada casinos intensified in 2005. The completed mergers of Harrah's with Caesars and the MGM Grand with Mandalay Bay resulted in two major casino operators on the Las Vegas Strip. Because of our extensive game library, commitment to R&D, breadth of products, manufacturing capacity, and financial strength, we are confident that IGT will be able to provide the level of service these new mega-operators will demand from a supplier.

During 2005, we completed our first large installation of CDS and Class II games at the San Pablo Casino at Lytton Rancheria in the San Francisco/Oakland area. With no significant new or renegotiated compact tribal growth in fiscal 2005, we only sold approximately 2,000 machines in California as properties grew to their full compacted number of units or replaced older, poorer performing games.

We placed our first CDS games in Washington and also entered the Wyoming market in 2005 with our first Class II installation in this state. We expect that over 5,000 new lottery machines will be placed during 2006 in Oregon, as they replace a majority of their current games and expand their installed base with the introduction of video reel games.

US Central Region

Representing approximately 30% or 248,000 gaming devices in the North America market, the central region spans15 states and encompasses riverboat-style gaming, land-based casino gaming, compacted Class III tribal gaming, Class II tribal gaming and VLT gaming.

The largest concentration of machines is within the so-called riverboat jurisdictions following the course of the Mississippi and Missouri rivers in Illinois, Indiana, Iowa, Louisiana, Michigan, Mississippi and Missouri with approximately 127,000 machines in 91 locations. This total includes approximately 16,000 machines at properties along the Mississippi Gulf Coast that were destroyed by hurricane Katrina in August 2005. While there is still uncertainty regarding plans to rebuild, legislation passed in October 2005 will allow land based gaming within 800 feet of the Mississippi coastline. Most major operators with impacted properties have announced plans for reopening in either rebuilt or temporary facilities in 2006. Several other operators are announcing plans for new facilities in 2007 and 2008.

In 2005, we saw some expansion in the gulf coast region with the opening of Pinnacle Entertainment's new property, L'Auberge du lac in Lake Charles, Louisiana. The property opened with 1,600 units in May 2005. Another new property, the Hard Rock in Biloxi, Mississippi, was scheduled to open with 1,660 units in August 2005, but the casino was destroyed by hurricane Katrina.

Near-term expansion opportunities include four additional licenses granted by the Iowa Racing Commission in May 2005. The new casino sites are expected to add just over 3,000 units to the total market installed base beginning in 2006 and continuing into 2007.

Approximately 72,000 Class III and Class II gaming devices are installed at 108 tribal casino properties in Iowa, Kansas, Louisiana, Michigan, Minnesota, Mississippi, North Dakota, South Dakota, and Wisconsin. We foresee opportunities for continued TITO conversions and replacement of older legacy products in these locations.

In June 2004, we began distributing Class II devices into Oklahoma, which has a current installed market base of approximately 25,000 gaming machines. Legislation was passed in November 2004 allowing poker and instant bingo for tribes that enter into compacts with the state. Still in the early stages of product introduction at the end of fiscal 2005, IGT had placed 655 CDS units and 375 poker games under revenue sharing arrangements. Due to ambiguous Class II regulation, Oklahoma growth has been slower than originally expected. Higher tax rates recently authorized have also inhibited the introduction of video poker in this market.

Other near-term opportunities in the central region include VLT replacements in Louisiana and South Dakota. In 2007 and beyond, additional opportunities may arise in Arkansas, Kansas and Texas.

US Eastern Region

Comprised of approximately 133,000 gaming machines or approximately 17% of the North America installed base, the eastern region accounted for 20% of North America sales. This region includes:

- traditional casino gaming markets in Atlantic City, New Jersey and cruise ships
- Native American Class III casinos in Connecticut, New York, and North Carolina
- facilities in Delaware, Maine, New York, Rhode Island, and West Virginia monitored by central control systems
- Class II/CDS facilities in Alabama and Florida
- Pennsylvania when its program starts in 2006 or 2007

Atlantic City remains the region's largest single market with approximately 42,000 machines. This market is becoming more competitive as casino ownership concentrates due to mergers, properties update their floors to include more table games and non-gaming amenities, and the replacement cycle brought on by TITO is completed. Announced expansion plans include additional slot machines at the Borgata and Harrah's in 2006. Cruise ships, each carrying approximately 200 machines, expanded with six new ships added in 2005 and another four ships expected to launch in 2006.

In Class III markets, Seneca Niagara casino in New York and Foxwoods in Connecticut are in the midst of Class III machine expansions. Seneca Niagara is adding 900 machines to its floor in late calendar 2005 and Foxwoods' 1,500 machine expansion is expected to open in late 2006. Seneca is also adding a new hotel to its Seneca Allegany property and planning a new facility in Buffalo, New York.

EXHIBIT 4

International Game Technology Announces Consummation of the Acquisition of Acres Gaming

RENO, Nev., Oct 27, 2003 /PRNewswire-FirstCall via COMTEX/ -- International Game Technology (NYSE: IGT) and Acres Gaming (Nasdaq: AGAM) jointly announced today the filing of Articles of Merger with the Nevada Secretary of State to consummate the previously announced planned merger, pursuant to which Acres became a wholly-owned subsidiary of IGT in a cash-for-stock merger. Pursuant to the merger, stockholders of Acres will receive cash in an amount equal to $11.50 per share of common stock.

Acres Gaming stock ceased to trade on the NASDAQ effective as of the close of trading on Monday, October 27, 2003. Stock certificates of Acres now represent only the right to receive $11.50 per share in cash. IGT's paying agent, The Bank of New York, will distribute a Letter of Transmittal to the stockholders of Acres with instructions on how stockholders may receive their merger consideration. Questions regarding how to surrender stock certificate(s), or to request additional copies of the Letter of Transmittal, should be addressed to The Bank of New York at (800) 507-9357.

Acres is a software development company serving the worldwide gaming industry. Acres provides bonusing and cashless gaming products as well as a full suite of integrated casino management systems via its Acres Bonusing(TM), Acres Cashless, and Acres Advantage(TM) product lines. Acres' patented technology enables casino operators to increase patron loyalty by differentiating their properties in an increasingly competitive environment. Acres' products provide the tools that increase player enjoyment and satisfaction while improving operational efficiency and property profitability. Detailed descriptions of the promotions made available by Acres Bonusing as well as other products offered by Acres, are available at the company's Web site, http://www.acresgaming.com . Acres was founded in 1992 and has offices in Las Vegas, Nevada and Corvallis, Oregon.

IGT (www.IGT.com) is a world leader in the design, development and manufacture of microprocessor-based gaming and lottery products and software systems in all jurisdictions where gaming and lotteries are legal.

Statements in this release which are not historical facts are "forward looking" statements under the Private Securities Litigation Reform Act of 1995. Although IGT believes that the expectations reflected in any of its forward-looking statements are reasonable, actual results could differ materially from those projected or assumed. IGT's future financial condition and results of operations, as well as any forward-looking statements, are subject to change and to inherent known and unknown risks and uncertainties. IGT does not intend, and undertakes no obligation, to update forward-looking statements to reflect future events or circumstances.

Information on risks and factors that could affect IGT's business and financial results are included in our public filings made with the Securities and Exchange Commission.

SOURCE International Game Technology

Ed Rogich, IGT - VP Marketing, +1-702-896-8690, or Rich Baldwin, IGT Investor Relations, +1-775-448-0110

http://www.IGT.com

EXHIBIT 5

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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-K

☒ ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d)
OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended June 30, 2003

(Commission File No.) **0-22498**

ACRES GAMING INCORPORATED

(Exact name of Registrant as specified in its charter)

Nevada	**88-0206560**
(State or other jurisdiction of incorporation or organization)	*(I.R.S. Employer Identification No.)*

7115 Amigo, Suite 150, Las Vegas, Nevada 89119
(Address of principal executive offices)

Registrant's telephone number, including area code:

(702) 263-7588

Securities registered pursuant to Section 12(b) of the Act:

None

Securities registered pursuant to Section 12(g) of the Act:

Common Stock, $.01 par value
(Title of class)

Indicate by check mark whether the Registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.
Yes ☒ No ☐

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of Registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ☒

Indicate by check mark whether the Registrant is an accelerated filed (as defined in Rule 12b-2 of the Securities Exchange Act of 1934).
Yes ☒ No ☐

The aggregate market value of the voting and non-voting common equity held by non-affiliates of the Registrant computed by reference to the price at which the common equity was sold, or the average bid and asked prices of such common equity, as of December 31, 2002 was $49,174,872. For purposes of this computation, all executive officers and directors of the Registrant have been deemed affiliates. This shall not be deemed an admission that such persons are affiliates.

The Company is required to maintain a current stock ledger in Nevada that may be examined by the Nevada Gaming Authorities at any time. If any securities are held in trust by an agent or by a nominee, the record holder may be required to disclose the identity of the beneficial owner to the Nevada Gaming Authorities. A failure to make such disclosure may be grounds for finding the record holder unsuitable. The Company is also required to render maximum assistance in determining the identity of the beneficial owner. The Nevada Commission has the power to require the Company's stock certificates to bear a legend indicating that such securities are subject to the Nevada Act. However, to date, the Nevada Commission has not imposed such a requirement on the Company.

The Company may not make a public offering of any securities without the prior approval of the Nevada Commission if the securities or the proceeds therefrom are intended to be used to construct, acquire or finance gaming facilities in Nevada or to retire or extend obligations incurred for such purposes.

Changes in control of the Company through merger, consolidation, stock or asset acquisitions, management or consulting agreements or any act or conduct by a person whereby he obtains control, may not occur without the prior approval of the Nevada Commission. Entities seeking to acquire control of a Registered Corporation must satisfy the Nevada Board and the Nevada Commission concerning a variety of stringent standards prior to assuming control of such Registered Corporation. The Nevada Commission may also require controlling stockholders, officers, directors and other persons having a material relationship or involvement with the entity proposing to acquire control, to be investigated and licensed as part of the approval process of the transaction.

The Nevada legislature has declared that some corporate acquisitions opposed by management, repurchases of voting securities and corporate defense tactics affecting Nevada gaming licensees and Registered Corporations that are affiliated with those operations, may be injurious to stable and productive corporate gaming. The Nevada Commission has established a regulatory scheme to ameliorate the potentially adverse effects of these business practices upon Nevada's gaming industry and to further Nevada's policy to: (i) assure the financial stability of corporate gaming operators and their affiliates; (ii) preserve the beneficial aspects of conducting business in the corporate form; and (iii) promote a neutral environmental for the orderly governance of corporate affairs. Approvals are, in certain circumstances, required from the Nevada Commission before the Company can make exceptional repurchases of voting securities above the current market price thereof and before a corporate acquisition opposed by management can be consummated. The Nevada Act also requires prior approval of a plan of recapitalization proposed by the Company's board of directors in response to a tender offer made directly to the Registered Corporation's stockholders for the purpose of acquiring control of the Registered Corporation.

Any person who is licensed, required to be licensed, registered, required to be registered or is under common control with such persons (collectively, "Licensees"), and who proposes to become involved in a gaming venture outside of Nevada, is required to deposit with the Nevada Board and, thereafter, maintain a revolving fund in the amount of $10,000 to pay the expenses of investigation by the Nevada Board of their participation in such foreign gaming. The revolving fund is subject to increase or decrease in the discretion of the Nevada Commission. Thereafter, Licensees are also required to comply with certain reporting requirements imposed by the Nevada Act. Licensees are also subject to disciplinary action by the Nevada Commission if they knowingly violate any laws of the foreign jurisdiction pertaining to the foreign gaming operation, fail to conduct the foreign gaming operation in accordance with the standards of honesty and integrity required of Nevada gaming operations, engage in activities that are harmful to the State of Nevada or its ability to collect gaming taxes and fees, or employ a person in the foreign operation who has been denied a license or a finding of suitability in Nevada on the ground of personal unsuitability.

No assurances can be given that such required licenses, permits, certificates or approvals will be given or renewed in the future. Failure by the Company to obtain, or the loss or suspension of, any necessary licenses, approvals or suitability findings, may prevent the Company from selling or distributing its products in Nevada.

Other Jurisdictions

Other jurisdictions in which the Company's products are sold or used require various licenses, permits and approvals in connection with such sale or use, typically involving restrictions similar in most respects to those of Nevada. The Company has complied with the approval process for use of the products it has sold in these other jurisdictions, including the receipt of manufacturer and distributor licenses, permits or certificates in each such state. Not all of the Company's products have been approved for sale in all jurisdictions.

The Company might not obtain or be granted renewals for required licenses, permits, certificates or approvals necessary to conduct its business in all jurisdictions in which it is required to do so. Failure by the Company to obtain, or the loss or suspension of, any necessary licenses, approvals or suitability findings, may prevent the Company from selling or distributing its products in such jurisdictions.

Employees

At August 31, 2003, the Company had 162 full-time employees of whom 68 were involved in research and development, 54 in customer service and support, 15 in material control, 7 in sales and marketing and 18 in administration and management. None of the Company's employees is represented by a labor union or covered by a collective bargaining agreement. The Company has not experienced any work stoppages and believes that its employee relations are good.

Available Information

Our Web site Internet address is www.acresgaming.com. We make available on our Web site, free of charge, our annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and any amendments to those reports, as soon as reasonably practicable after we electronically file such material with, or furnish it to, the SEC. Our SEC reports can be accessed through the investor relations section of our Web site. The information found on our Web site is not part of this or any other report we file with or furnish to the SEC.

ITEM 2. PROPERTIES

The Company's headquarters and principal operations are located at 7115 Amigo Street, Suite 150, Las Vegas, Nevada. This facility encompasses approximately 39,000 square feet. The lease commenced on June 15, 1998 and was extended in June 2003 for an additional 60 months with a new expiration date of June 15, 2008. Currently, the base rent is approximately $52,600 per month, plus $9,700 per month for property taxes, building insurance and common area maintenance.

The Company also leases approximately 11,000 square feet in Corvallis, Oregon. The current lease commenced on September 1, 1999 and will expire on August 31, 2004. The base rent for the total facility is approximately $15,500 per month, which includes property taxes, building insurance and common area maintenance.

The Company owns manufacturing and engineering equipment that it uses in its assembly operations and research and development efforts. Such equipment is available from a variety of sources and the Company believes that it currently owns or can readily acquire equipment required for its current and anticipated levels of operations.

ITEM 3. LEGAL PROCEEDINGS

As of April 21, 2003, the Company and Anchor Gaming ("Anchor") settled both of the lawsuits filed in U.S. District Court for the District of Nevada and U.S. District Court for the District of Oregon regarding ownership of the Wheel of Gold™ ("WOG") technology that is the subject of two patents that were assigned to Anchor. The Company relinquished all claims to the WOG patents and acknowledged the scope and validity of those patents. The parties stipulated to the dismissal of their respective claims in U.S. District Court in Oregon and their respective claims in U.S. District Court in Nevada other than the Company's claim for joint inventorship of the WOG patents. The Company also agreed to assign all rights it may have in the WOG patents to Anchor Coin, a wholly-owned subsidiary of IGT.

The defense of the lawsuit with Anchor in the U.S. District Court for the District of Nevada was accepted by the Company's former professional errors and omissions insurance carrier. However, in April 2000, the carrier denied coverage. The Company is involved in litigation, now pending in the U.S. District Court for the District of Nevada, with its former insurance carrier regarding such coverage. On motions for summary judgment, the court found on February 28, 2002 that the insurance carrier has a duty to defend the Company against the lawsuit. Upon a motion for reconsideration, on March 5, 2003 the court found that the insurance carrier has a duty to defend the Company against the entire Anchor lawsuit, but is entitled to reimbursement from the Company for the amount the insurance carrier paid for claims alleged by Anchor that are not covered by the Company's policy. The Company cannot predict the outcome of this suit.

In another insurance coverage suit, the Company sued its former general liability insurance carrier for breach of insurance contract related to the cost of defense of claims alleged by Casino Data Systems in a separate lawsuit that has been settled. The suit against the insurance carrier is now pending in U.S. District Court for the District of Nevada. The insurance carrier seeks a declaration that no coverage is provided for the claim, that if coverage is provided it should be provided by the prior insurance carrier, and that the Company must reimburse the insurance carrier for amounts paid under its insurance policy to defend the Company. On motions for summary judgment, the court found on February 28, 2002 that the insurance carrier did not have a duty to defend the Company against the lawsuit and that the Company must repay the insurance carrier approximately $70,000 in defense costs previously paid by the insurance carrier. At June 30, 2002, the Company recorded a liability in the amount of $70,000 to provide for the contingency. Upon a motion for reconsideration, on March 5, 2003 the court found that the insurance carrier has a duty to defend the Company against the lawsuit. The insurance carrier has filed a motion requesting leave to file an interlocutory appeal of the trial court's ruling on the motion for reconsideration. The Company cannot predict the outcome of this suit but believes that an unfavorable outcome would not have a material adverse effect on the Company's financial condition, results of operations or cash flows.

Wild Game NG, LLC, a Nevada limited liability company, which owns and operates Siena Hotel Spa Casino in Reno, Nevada, filed a lawsuit against the Company in November 2001 in the Second Judicial District Court of the State of Nevada in the County of Washoe. Siena alleges that the Company failed to perform its obligations under a $1.8 million Equipment Sale Agreement to install and maintain a networked slot accounting, cage and credit and player tracking system in Siena's casino. Siena seeks damages in excess of $30,000,000, largely comprised of consequential damages (damages for lost profits). On September 25, 2003, the Company filed a motion for partial summary judgment to preclude Siena from seeking consequential damages, which are not recoverable pursuant to the terms of the Equipment Sale Agreement. The Company believes that Siena's claims are unfounded and has filed counterclaims seeking, among other things, payments Siena owes the Company for installation of the Company's hardware in Siena's casino. The Company cannot predict the outcome of this suit but believes that an unfavorable outcome would not have a material adverse effect on the Company's financial condition, results of operations or cash flows.

In June 2003, a putative class action lawsuit was filed in Clark County, Nevada District Court against the Company and its directors, entitled Paul Miller v. Acres Gaming Incorporated, et al., Case No. 470016. The complaint alleges that the Company's directors breached their fiduciary duties to stockholders in connection with the approval of the merger transaction between the Company and IGT and seeks to enjoin and/or void the merger agreement among other forms of relief. On September 19, 2003, the judge presiding over the case denied plaintiff's motion for a temporary restraining order (TRO) to prevent Acres stockholders from voting on the merger. On September 24, 2003, plaintiff petitioned the Nevada Supreme Court to vacate the denial of the TRO and to enjoin the Company from holding its stockholder vote on the merger. The Nevada Supreme Court denied the petition on September 25, 2003. The Company believes that the plaintiff's claims are without merit.

The Company from time to time is involved in various other legal proceedings arising in the normal course of business.

ITEM 4. SUBMISSION OF MATTERS TO A VOTE OF SECURITY HOLDERS

There were no matters submitted to a vote of security holders during the quarter ended June 30, 2003.

EXECUTIVE OFFICERS OF REGISTRANT

As of September 26, 2003, the executive officers of the Company were as set forth below:

Name	Age	Positions and Offices	Executive Officer Since
Floyd W. Glisson	56	Chairman and Chief Executive Officer	1998
Richard J. Schneider	46	President and Chief Operating Officer	1999

EXHIBIT 6

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 10-K

/x/ ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d)
OF THE SECURITIES EXCHANGE ACT OF 1934 [Fee Required]
FOR THE FISCAL YEAR ENDED JUNE 30, 1996

(Commission File No.) 0-22498

ACRES GAMING INCORPORATED
(EXACT NAME OF REGISTRANT AS SPECIFIED IN ITS CHARTER)

NEVADA	88-0206560
(STATE OR OTHER JURISDICTION OF INCORPORATION OR ORGANIZATION)	(I.R.S. EMPLOYER IDENTIFICATION NO.)

815 NW NINTH STREET, CORVALLIS, OREGON 97330
(ADDRESS OF PRINCIPAL EXECUTIVE OFFICES)

REGISTRANT'S TELEPHONE NUMBER INCLUDING:

(541) 753-7648

SECURITIES REGISTERED PURSUANT TO SECTION 12(b) OF THE ACT:

None

SECURITIES REGISTERED PURSUANT TO SECTION 12(g) OF THE ACT:

Common Stock, $.01 par value

Redeemable Common Stock Purchase Warrants

Units (one share of Common Stock and one-half Redeemable Common Stock Purchase Warrant)

(TITLE OF CLASS)

Indicate by check mark whether the Registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

Yes X No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of Registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10.

The aggregate market value of the voting stock held by non-affiliates computed by reference to the price at which the stock was sold, or the average bid and asked prices of such stock, as of August 31, 1996 was $50,719,000

PART I

ITEM 1. BUSINESS

GENERAL

The Company develops, manufactures and markets electronic game promotion, slot accounting, and game monitoring systems to the casino gaming industry. Its Concept III products are designed to enhance casino profitability by providing entertainment and incentives to players of slot machines and collecting and analyzing data for use by casino managers. The Concept III technology improves the efficiency of bonus and incentive programs currently offered by many casinos, and makes possible bonus and incentive programs that have not previously been offered. A number of the primary manufacturers of slot machines have made extensive changes to the software used in their machines to support the Concept III technology.

The Company currently offers products in four major categories:

- Bonusing
- Progressive jackpots
- Slot accounting
- Player tracking

Bonusing and progressive jackpot systems, which provide players with opportunities for additional play and special pay-outs, are designed to enhance interest in the machines and games to which they are attached. The slot accounting products collect, analyze and report data to casino managers to satisfy accounting and regulatory requirements and to enable casino management to analyze the performance of each gaming device by type and location. Player tracking systems allow a casino to monitor the playing patterns of individual players or selected groups of players and to develop incentives and promotions to those players.

In August 1996, the Company executed a letter of intent to implement a strategic alliance with International Game Technology ("IGT"). IGT is the largest manufacturer of slot machines in the world. The agreement includes a $5 million investment from IGT in return for 519,481 newly issued shares of the Company's 3% convertible preferred stock, with a twelve-month option to purchase an additional 519,481 shares at the same price. IGT will also have the right to elect one member to the Company's board of directors. See "Strategic Alliance with IGT."

In connection with the anticipated strategic alliance with IGT, the Company expects to sell its Concept III bonusing and player tracking components (which have been designed to interface with the Company's bonusing components) for use in IGT Smart System-TM- player tracking/slot accounting installations and expects to partially discontinue offering its slot accounting and player tracking modules. See "Strategic Alliance with IGT."

THE MARKET

Casino gaming is found in more than 15 states in the United States. Iowa and Illinois legalized limited gaming on riverboats in the late 1980s. Subsequently, Mississippi, Missouri, Louisiana and Indiana have also legalized riverboat or dockside casinos. Land-based gaming is permitted in Colorado, South Dakota and Louisiana. The Indian Gaming Regulatory Act of 1988 has resulted in a significant expansion of casino gaming on Indian lands. Casinos currently are found on Indian lands in a number of states, including Arizona, California, Connecticut, Minnesota, Oregon, Washington and Wisconsin. Gaming in the traditional markets of Nevada and New Jersey has continued to grow even as gaming has been introduced into additional jurisdictions.

Casino gaming has also grown rapidly world-wide, including in Australia, Canada, Europe and Africa, as well as in parts of the former Soviet Union and South America.

The Company estimates that approximately 750,000 casino-style machines are currently in use throughout the world, including approximately 400,000 in the United States.

The Company believes that increased competition among casinos will lead to increased demand for game promotion, automated slot accounting, and game monitoring systems of the type offered by the Company.

New or expanding casinos represent a significant part of the potential market for the Company's products. Existing casinos also represent a significant potential market as casino managers seek to maintain or improve casino profitability by employing bonusing and other promotional programs for slot machines.

CONCEPT III

The Concept III system was conceived to provide to the gaming industry a system to enable the design and delivery of bonuses and other promotions directly to players at the point of play and at the time of play. The Company currently offers four Concept III products directly to casinos: bonusing, slot accounting, player tracking, and progressive jackpot systems for gaming machines. Concept III and its component products are a modular, integrated system. The bonusing, progressive jackpot, slot accounting, and player tracking modules can be purchased and installed individually or as components of an integrated system. The Company intends that future products it may develop will also be integrated into the Concept III system.

The Company also offers Concept III to OEM manufacturers of specialty slot machines. An OEM manufacturer can use the ability of Concept III to coordinate lights, sound and other special effects and its ability to cause a slot machine to pay special bonuses. By adding these capabilities of Concept III to regular slot machines, entirely new games can be created which offer unique and entertaining experiences for slot players.

A Concept III installation in a casino includes electronic hardware installed in the slot machines, personal computers that serve as controllers for groups of slot machines, software to operate bonusing systems and progressive jackpot systems and software to record and analyze data and generate reports to casino management. Concept III employs personal computer technology, and is designed to take advantage of future improvements in such technology. Under the agreement with IGT, the Company expects to discontinue offering the software which records and analyzes data and generates reports.

Up to 10,000 slot machines can be connected in a Concept III installation. A single controller can serve up to 2,000 machines, and up to 5 controllers can be included in a Concept III installation. The largest installation for which the Company has received an order was approximately 2,500 slot machines. The world's largest casino currently has approximately 4,000 slot machines.

The primary manufacturers of slot machines, including IGT and Bally Gaming International, Inc. ("Bally"), have made extensive changes to the software used in their machines to support the Concept III technology. The changes permit the slot machines to accept instructions from the Concept III system, primarily in connection with the bonusing system module. New software supporting the Concept III system on IGT's S+ series and Players Edge Plus series of machines and Bally's 5500 Pro Series of machines, as well as the Concept III system itself, has been approved by the Nevada Gaming Control Board. See "Government Regulation."

The initial installation of the Concept III slot accounting module was at the Casino Royale casino in Las Vegas, Nevada, in January 1993. The player tracking module was initially installed during July 1994 at casinos operated by the Ho-Chunk Nation (formerly named the Wisconsin Winnebago Nation). The Treasure Island Resort in Las Vegas installed the progressive jackpot system for slot machines for casino-wide use. In November 1994, the initial installation of the bonusing system module was installed at the Casino Royale to operate a Double Jackpot Time promotion. After review of a field trial period, the bonusing system was released for general installation in Nevada in April, 1995.

Aristocrat Leisure Industries of Australia ("Aristocrat") is the leading manufacturer of slot machines in Australia and the second largest in the world. In February 1996, the Company entered into a sales agreement with Aristocrat under which the Company is providing its Concept III system for a new casino under development by Crown Ltd. in Melbourne, Australia, which is scheduled to open in early 1997.

BONUSING SYSTEM

Many casinos offer promotions such as double jackpots at certain times of the day. While such promotions have in many cases been successful in increasing play at slot machines during the double jackpot periods, they have required extensive administrative effort to manage. Concept III, with its ability to deliver instructions to the slot machine, enables the casino to automate the payment of and accounting for double jackpot and other bonus programs. In addition, the Concept III technology allows a double jackpot or other bonus program to operate on a random basis, or to operate only when a minimum level of activity is present. A display can be mounted on the slot machine to inform players when the bonus program is operative. In addition, the bonusing system can include lighting, sound, signage and other special effects to call players' attention to the bonusing event as it begins and progresses. The Company is using such special effects to simulate clouds, lightning, thunder and wind, which, combined with a double and five-time jackpot bonus application, create a promotion called Hurricane Zone.

Many casinos have also offered promotions where they provide free play to entice players to visit the casino. Such promotions have required extensive administrative effort to manage and there has been no assurance that the money given to potential customers will be played in the casino's slot machines. Using the capabilities of Concept III, this type of promotion can be automated and, instead of giving money directly to the customer, the Concept III system can match each coin played in the slot machine ("Match Play") or provide free play ("Reel Money") by adding a free coin under parameters controlled by the casino. The capabilities of Concept III also allow implementation of the Personal Progressive promotion, where each qualifying player can build up a progressive jackpot which only that player is eligible to win.

Installation of the Match Play and Personal Progressive promotions was completed in November 1995 on 50 slot machines at the Treasure Island Casino in Las Vegas. The first installation of the Hurricane Zone promotion was completed on 34 machines at the Edgewater Hotel & Casino in Laughlin, Nevada, in May 1996. The first installation of Reel Money was completed at the Sundowne Hotel & Casino in Reno, Nevada, in June 1996.

PROGRESSIVE JACKPOTS FOR SLOT MACHINES

A progressive jackpot system links a number of slot machines to generate a collective jackpot. As coins are played in the machines, a portion of each coin is allocated to the creation of the jackpot. Other progressive jackpot systems require a controller to be installed at the same location as the machines that are linked to the jackpot. In contrast, a Concept III progressive jackpot system is programmed remotely from a personal computer. This method of programming enables the casino manager to determine which machines are to be linked to the progressive jackpot, and to establish various parameters such as starting jackpot amounts, rates of increment, and limits, if any, on the jackpot. The flexibility provided by Concept III enables the casino manager to design, alter and readily implement new progressive jackpot promotions which may be created from time to time.

SLOT ACCOUNTING

The slot accounting module automatically collects play data about each gaming device. This information is transmitted to a central computer system where it is immediately available to the casino manager, and where it is stored for future analysis and reporting. The equipment is configured to monitor all slot machine functions, including coins deposited in the machine, coins paid out of the machine, coins available to "drop," number of games played, jackpot occurrences and other machine functions, and recognizes players who use player identification cards.

EXHIBIT 7

IN THE UNITED STATES DISTRICT COURT

FOR THE DISTRICT OF DELAWARE

IGT, a Nevada corporation, Plaintiff, v. BALLY GAMING INTERNATIONAL, INC., a Delaware corporation; BALLY TECHNOLOGIES,INC., a Nevada corporation; and BALLY GAMING, INC., a Nevada corporation d/b/a BALLY TECHNOLOGIES, Defendants.	)	C.A. No. 06-282-KAJ

PLAINTIFF IGT'S FIRST SET OF REQUESTS FOR PRODUCTION OF DOCUMENTS AND THINGS TO DEFENDANTS (NOS. 1-40)

TO: DEFENDANTS BALLY GAMING INTERNATIONAL, INC., BALLY TECHNOLOGIES, INC., AND BALLY GAMING, INC., AND TO THEIR ATTORNEYS OF RECORD

Pursuant to Rule 34 of the Federal Rules of Civil Procedure, you are hereby requested to produce the documents and things described below on June 26, 2006 at 9:00 a.m. at the offices of Richards, Layton & Finger LLP, One Rodney Square, Wilmington, Delaware 19899, or at such other time and place as may be agreed upon by the parties.

PLEASE TAKE FURTHER NOTICE that you are required to serve a written response to this request in the form and manner and within the time specified in Rule 34(b) of the Federal Rules of Civil Procedure.

DEFINITIONS

The terms listed below have the following meanings:

1. The terms "**YOU**," "**YOUR**," "**BALLY**," and "**DEFENDANTS**" as used herein shall each mean and include Bally Technologies, Inc., Bally Gaming International, Inc., Bally Gaming, Inc., together with each of their respective departments, divisions, subsidiaries, predecessors and affiliates, past and present, and all employees, representatives, and/or agents acting or purporting to act on any or all of their respective behalf.

2. "**IGT**" means:

(a) IGT, its parents, predecessors, divisions, subsidiaries, affiliates, partnerships, and joint ventures, either collectively, individually, or in any subset (including, but not limited to Acres Gaming, Incorporated); and

(b) The present and former officers, directors, employees, agents, and other persons acting on behalf of International Game Technology, its parents, predecessors, divisions, subsidiaries, affiliates, partnerships, or joint ventures.

3. "**PERSON**" means any natural person and any entity, including any governmental agency or authority, corporation, association, or other business enterprise.

4. "**ACRES GAMING**" means Acres Gaming Incorporated.

5. "**BALLY POWER BONUSING**" shall mean all software, products, technology and systems in the "Bally Power Bonusing" technology suite, including products formerly marketed under different names, including, but not limited to, "Bally Power Rewards," "Bally Power Promotions," "Bally Power Coupon," "Bally Power Bank," "Bally Power Sweepstakes," "Bally Power Winners," and "Power Play Bonusing."

6. "**DOCUMENTS**" shall have the meaning ascribed to that term in Rule 34 of the Federal Rules of Civil Procedure, and shall also include, without limitation, all

writings and recordings as defined by Rule 1001 of the Federal Rules of Evidence, drawings, graphs, charts, photographs, film, audio or video recordings, facsimile transmissions, computer files, and electronic mail messages, and all data compilations from which information can be obtained, translated, if necessary, through detection devices into reasonably useable form. "**DOCUMENTS**" also include all drafts, all attachments to documents, and all copies of documents that are not identical duplicates of the original (for example, because handwriting, marginalia, or notes appear on the duplicate or are attached to it), whether or not the originals are in BALLY's possession, custody, or control.

7. Documents and things "**RELATING**" or that "**RELATE**" to any given subject shall mean, without limitation, any document or thing that, in whole or in part, constitutes, comprises, embodies, reflects, refers to, identifies, states, pertains directly or indirectly to, or is in any way relevant to the particular subject matter identified.

8. "**CONCERN**" or "**CONCERNING**" shall mean relating to, describing, constituting, evidencing, supporting or discussing the referenced matter.

9. "**PATENTS-IN-SUIT**" means U.S. Patent No. RE 38,812; U.S. Patent No. RE 37,885; U.S. Patent No. 6,832,958; U.S. Patent No. 6,319,125; U.S. Patent No. 6,244,958; U.S. Patent No. 6,431,983; U.S. Patent No. 6,607,441; U.S. Patent No. 6,565,434; and U.S. Patent No. 6,620,046.

INSTRUCTIONS FOR PRODUCTION

1. All DOCUMENTS shall be produced in the booklet, binder, file, folder, envelope, or other container in which the documents are kept or maintained by YOU. If for any reason the container cannot be produced, please produce copies of all labels or other identifying markings. DOCUMENTS attached to each other should not be separated.

2. If a DOCUMENT once existed, but has been lost, destroyed, or otherwise is no longer in YOUR possession, identify the DOCUMENT and state the details concerning the loss or destruction of such DOCUMENT, including the name and address of the present custodian of any such DOCUMENT known to YOU.

3. If YOU withhold any DOCUMENT covered by this set of requests by reason of a claim of privilege, or object to any part of any request for production, YOU are requested to produce a list identifying each such DOCUMENT for which the privilege is claimed or to which the objection relates, together with the information required by law to be provided in a privilege log, including, the following information:

(a) The reason(s) for each objection or claim of privilege;

(b) The date of the DOCUMENT;

(c) Any bates number or any other serial or identification number appearing on the DOCUMENT;

(d) The identity of each person who wrote, signed, initiated, dictated or otherwise participated in the creation of the DOCUMENT;

(e) The general subject matter of the DOCUMENT;

(f) The identity of each person who was an addressee or and/or who received the DOCUMENT or a copy thereof.

DOCUMENTS AND THINGS REQUESTED

DOCUMENT REQUEST NO. 1:

All DOCUMENTS RELATING to the operation, installation, and/or maintenance of BALLY POWER BONUSING including, but not limited to, functional specifications, technical manuals, service manuals, user manuals, installation guides, diagrams of software functions, network diagrams, application flowcharts, communication pathways and protocols, database schemas, database table and column descriptions, source code (produced in native, electronic format along with the version control for the source code), training materials, correspondence, online help files, and materials published on YOUR internet sites (including materials available only to customers or registered users).

DOCUMENT REQUEST NO. 2:

All DOCUMENTS RELATING to the operation of Bally Casino Management Systems (including but not limited to CMP, CMS, ACSC, and MCC) or as it relates to or operates in connection with BALLY POWER BONUSING including but not limited to functional specifications, technical manuals, service manuals, user manuals, installation guides, diagrams of software functions, network diagrams, application flowcharts, communication pathways and protocols, database schemas, database table and column descriptions, source code (produced in native, electronic format along with the version control for the source code), training materials, correspondence, online help files, and materials published on YOUR internet sites (including materials available only to customers or registered users).

DOCUMENT REQUEST NO. 3:

All DOCUMENTS RELATING to the operation of Bally Slot Management Systems (including but not limited to ACSC, SDS and MCC) as it relates to or operates in connection with BALLY POWER BONUSING including but not limited to functional specifications, technical manuals, user manuals, service manuals, installation guides,

diagrams of software functions, network diagrams, application flowcharts, communication pathways and protocols, database schemas, database table and column descriptions, source code (produced in native, electronic format along with the version control for the source code), training materials, correspondence, online help files, marketing materials and materials published on YOUR internet sites (including materials available only to customers or registered users).

DOCUMENT REQUEST NO. 4:

All DOCUMENTS RELATING to the operation of Bally's iVIEW device as it relates to or operates in connection with BALLY POWER BONUSING including but not limited to functional specifications, technical manuals, service manuals, user manuals, installation guides, diagrams of software functions, network diagrams, application flowcharts, communication pathways and protocols, database schemas, database table and column descriptions, source code (produced in native, electronic format along with the version control for the source code), correspondence, training materials, online help files, marketing materials and materials published on YOUR internet sites (including materials available only to customers or registered users).

DOCUMENT REQUEST NO. 5:

All DOCUMENTS RELATING to the marketing, advertising or promotion of BALLY POWER BONUSING including published and non-published materials, including, but not limited to, correspondence, advertising materials, catalogs, brochures, data sheets, promotional literature, publications, materials published on YOUR internet sites (including materials available only to customers or registered users), including all such materials provided to YOU by Boyd Gaming Corporation, South Coast Hotel and Casino, Borgata Hotel Casino and Spa, Greektown Casino, Atlantis resort on Paradise Island, Resorts International Entertainment, Hollywood Slots at Bangor, Aruba Crystal Casino, Seaport Casino, Harrah's Entertainment, or Chukchansi Gold Resort and Casino,

or their parents, predecessors, divisions, subsidiaries, affiliates, partnerships and joint ventures.

DOCUMENT REQUEST NO. 6:

All DOCUMENTS RELATING to any sale, offer for sale, supply, license, offer to license or other grant of rights in any technology utilized in BALLY POWER BONUSING or components especially made or especially adapted for operating BALLY POWER BONUSING by YOU, including, but not limited to sales, offers for sale, supplies, licenses, offers to license or other grants of rights to Boyd Gaming Corporation, South Coast Hotel and Casino, Borgata Hotel Casino and Spa, Greektown Casino, Atlantis resort on Paradise Island, Resorts International Entertainment, Hollywood Slots at Bangor, Aruba Crystal Casino, Seaport Casino, Harrah's Entertainment, or Chukchansi Gold Resort and Casino, or their parents, predecessors, divisions, subsidiaries, affiliates, partnerships and joint ventures, including but not limited to proposals, sales contracts, license agreements and maintenance agreements (including all appendices and supplemental documents including but not limited to bills of materials and lists of third party equipment required for operation of BALLY POWER BONUSING).

DOCUMENT REQUEST NO. 7:

All DOCUMENTS RELATING to the design, installation, deployment, and operation of BALLY POWER BONUSING including all DOCUMENTS RELATING to comments, requests, questions, concerns, evaluations, and feedback of any customers or potential customers who purchased, leased or licensed BALLY POWER BONUSING or to whom BALLY POWER BONUSING was offered for sale, lease or license, including but not limited to, Boyd Gaming Corporation, South Coast Hotel and Casino, Borgata Hotel Casino and Spa, Greektown Casino, Atlantis resort on Paradise Island, Resorts International Entertainment, Hollywood Slots at Bangor, Aruba Crystal Casino, Seaport Casino, Harrah's Entertainment, or Chukchansi Gold Resort and Casino, or their parents, predecessors, divisions, subsidiaries, affiliates, partnerships and joint ventures.

DOCUMENT REQUEST NO. 8:

All DOCUMENTS RELATING to the installment and operation of ACRES GAMING systems and products (including but not limited to Acres Bonusing, Acres Advantage, and Acres Cashless) including DOCUMENTS RELATING to comments, questions, concerns, evaluations and feedback of employees or operators of casinos.

DOCUMENT REQUEST NO. 9:

All DOCUMENTS RELATING to each submission to a gaming regulatory in any jurisdiction concerning BALLY POWER BONUSING, including but not limited to filings with the Delaware State Lottery Office, Nevada Gaming Commission, Nevada Gaming Control Board, Michigan Gaming Control Board, New Jersey Casino Control Commission, New Jersey Division of Gaming Enforcement, California Gambling Control Commission, California Attorney General's Division of Gambling Control, Gaming Board for the Commonwealth of the Bahamas, and tribal gaming regulatory agencies.

DOCUMENT REQUEST NO. 10:

All DOCUMENTS RELATING to the conception, design, development and manufacture of BALLY POWER BONUSING.

DOCUMENT REQUEST NO. 11:

All DOCUMENTS RELATING to the conception, design, development and marketing by BALLY of any bonusing programs, systems or promotions (including but not limited to progressive pools or jackpots and player tracking systems), including bonusing programs, bonus engine concepts, and bonus systems or promotions which were not or have not yet been fully developed or brought to market.

DOCUMENT REQUEST NO. 12:

All DOCUMENTS RELATING to the conception, design, development, marketing and manufacture of BALLY's ACSC bonusing, promotion, and sweepstakes features.

DOCUMENT REQUEST NO. 13:

All DOCUMENTS RELATING to the development of bonusing-related gaming system themes or game themes.

DOCUMENT REQUEST NO. 14:

All DOCUMENTS RELATING to the conception, design, development, marketing and manufacture of player-centric bonusing-related games, systems or themes.

DOCUMENT REQUEST NO. 15:

All DOCUMENTS RELATING to the conception, design, development, marketing and manufacture of player-tracking-program-related bonusing games, systems or themes.

DOCUMENT REQUEST NO. 16:

All DOCUMENTS RELATING to the conception, design, development, marketing and manufacture of loyalty program-related bonusing games, systems or themes.

DOCUMENT REQUEST NO. 17:

All DOCUMENTS RELATING to the content and maintenance of Internet sites and web pages for BALLY POWER BONUSING.

DOCUMENT REQUEST NO. 18:

DOCUMENTS sufficient to fully demonstrate and explain the intended use, functions, and features of BALLY POWER BONUSING.

DOCUMENT REQUEST NO. 19:

All DOCUMENTS RELATING to business plans and projections, sales forecasts, or other business planning DOCUMENTS pertaining to BALLY POWER BONUSING.

DOCUMENT REQUEST NO. 20:

All DOCUMENTS RELATING to any royalties and/or licensing fees received by, or projected to be received by, YOU in connection with BALLY POWER BONUSING.

DOCUMENT REQUEST NO. 21:

All DOCUMENTS RELATING to the pricing of BALLY POWER BONUSING.

DOCUMENT REQUEST NO. 22:

All DOCUMENTS RELATING to the costs of researching, developing, manufacturing, and selling BALLY POWER BONUSING.

DOCUMENT REQUEST NO. 23:

All DOCUMENTS RELATING to collaborations, partnerships, agreements, joint ventures, licenses, or other arrangements considered or entered into by BALLY for the purpose of developing, manufacturing, selling, or distributing BALLY POWER BONUSING.

DOCUMENT REQUEST NO. 24:

All DOCUMENTS RELATING to intellectual property agreements or other arrangements concerning intellectual property considered or entered into by BALLY for the purpose of developing, manufacturing, selling or distributing BALLY POWER BONUSING.

DOCUMENT REQUEST NO. 25:

All DOCUMENTS RELATING to any attempt by BALLY to design around the PATENTS-IN-SUIT.

DOCUMENT REQUEST NO. 26:

All DOCUMENTS RELATING to any analysis by BALLY of the PATENTS-IN-SUIT.

DOCUMENT REQUEST NO. 27:

All DOCUMENTS RELATING to, referring, relating or pertaining to market research for, or evaluations of, the market for bonusing programs, systems, software, games or technology.

DOCUMENT REQUEST NO. 28:

All DOCUMENTS RELATING to actual or potential competition between YOU and IGT in connection with research, development, production, or sale of any bonusing programs, systems, software, products, games or technology.

DOCUMENT REQUEST NO. 29:

All DOCUMENTS RELATING to actual or potential competition between YOU and ACRES GAMING.

DOCUMENT REQUEST NO. 30:

All DOCUMENTS RELATING to any product reviews, comparisons, or usability tests or evaluations of BALLY POWER BONUSING

DOCUMENT REQUEST NO. 31:

All DOCUMENTS RELATING to IGT's acquisition of ACRES GAMING.

DOCUMENT REQUEST NO. 32:

All DOCUMENTS RELATING to ACRES GAMING products, systems, software, technology or bonusing concepts, including but not limited to Acres Bonusing, Acres Advantage, and Acres Cashless.

DOCUMENT REQUEST NO. 33:

All DOCUMENTS RELATING to any of the PATENTS-IN-SUIT.

DOCUMENT REQUEST NO. 34:

DOCUMENTS sufficient to identify all PERSONS who participated in any research, development or technical design activities in connection with BALLY POWER BONUSING.

DOCUMENT REQUEST NO. 35:

All DOCUMENTS RELATING to BALLY's actual or pending intellectual property rights for BALLY POWER BONUSING.

DOCUMENT REQUEST NO. 36:

All DOCUMENTS RELATING to all proposed or actual agreements between YOU and IGT.

DOCUMENT REQUEST NO. 37:

All DOCUMENTS RELATING to YOUR efforts to determine the scope of IGT's intellectual property rights.

DOCUMENT REQUEST NO. 38:

All DOCUMENTS RELATING to YOUR efforts to determine the scope of ACRES GAMING's intellectual property rights.

DOCUMENT REQUEST NO. 39:

All DOCUMENTS CONCERNING YOUR policies and procedures concerning the retention and destruction of DOCUMENTS.

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Dated: May 26, 2006

CERTIFICATE OF SERVICE

I hereby certify that on May 26, 2006, I caused the foregoing document to be served on the following attorney of record in the manner and at the address indicated:

BY HAND

Jack B. Blumenthal, Esquire
Karen Jacobs Louden, Esquire
Morris, Nichols, Arsht & Tunnell
1201 N. Market Street
Wilmington, DE 19899

William J. Wade (#704)